High Impact, Low Probability Risk and Related Events in Political Risk Analysis: An Evaluation of the Black Swan.

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DECLARATION

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ENGLISH ABSTRACT

This thesis conducted an evaluation on the Black Swan theory, developed by Nassim Nicholas Taleb and its applicability in Political Risk Analysis (PRA). The theory is based on three primary characteristics speaking to events which take place that cannot be forecast because; (1) the event has a low occurrence probability due to its *unknown unknown* status and therefore cannot be identified. As a result (2) the impact of this event is significantly devastating as it changes a country's social, political and economic trajectories. However, although the event could not have been identified in order to approach it before its occurrence, (3) Taleb says that risk analysts and decision makers conduct a Narrative Fallacy after the fact where they identify indicators which would have pointed to its fruition. However, there are several quantitative and qualitative methods in PRA which have been used to approach high impact, low probability risks and related events. The thesis considers how the concept of PRA has developed and expanded to include measures which aid risk analysts in accurately forecasting and approaching events of this nature. The thesis then assesses a variety of qualitative and quantitative approach strategies to show this. This also presented critiques, oppositions and alternatives to Taleb's theory as the applicability of the Black Swan as a classification in PRA was then evaluated. This led to the development of the Novice Approach which was then applied to three examples in Jordan, Britain and America respectively. Here, Actors, Factors, Time (opportunity) and Location were used as the four primary indices to analyse and approach the terrorist attacks which took place at music festivals. In doing so, it was shown that scenarios such as these should be classified as high impact, low probability events in PRA and not as Black Swans. Furthermore, the impact these events may have on a country can be predetermined by the socio-political status and resource availability and capacity, meaning that the relative approach or mitigation strategy can be implemented. The study then concludes by saying that the Black Swan cannot be applied as a classification of events in PRA.

AFRIKAANS ABSTRACT

Hierdie tesis het 'n evaluering gedoen van die “Black Swan” teorie, ontwikkel deur Nassim Nicholas Taleb en die toepaslikheid daarvan in Politieke Risiko analise (PRA). Die teorie is gebaseer op drie primêre eienskappe wat handel oor gebeure wat nie voorspel kan word nie, want; (1) die gebeurtenis het 'n lae voorkoms waarskynlikheid as gevolg van sy onbekende status en kan dus nie geïdentifiseer word nie. As gevolg hiervan (2) is die impak van hierdie gebeurtenis aansienlik verwoestend, aangesien dit 'n land se sosiale, politieke en ekonomiese bane verander. Alhoewel die gebeurtenis nie geïdentifiseer kon word om dit voor sy aanval te benader nie, (3) sê Taleb dat risiko-ontleders en besluitnemers 'n “Narratiewe Fallacy” doen na die feit waar hulle aanwysers identifiseer wat na sy produksie verwys het. Daar is egter verskeie kwantitatiewe en kwalitatiewe metodes in PRA wat gebruik word om hoë impak, lae waarskynlikheid risiko’s en verwante gebeurtenisse aan te pak. Die tesis evalueer hoe die konsep PRA ontwikkel en uitgebrei het om maatreëls in te sluit wat risiko-ontleders help om akkurate voorspellings en benaderende gebeure van hierdie aard te bepaal. Dit oorweeg dan 'n verskeidenheid kwalitatiewe en kwantitatiewe benaderings strategieë om dit te toon, waarna dit ook kritiek, opposisie en alternatiewe vir Taleb se teorie aanbied, aangesien die toepaslikheid van die “Black Swan” as 'n klassifikasie in PRA verder geëvalueer is. Verder het dit het gelei tot die ontwikkeling van die Novice Approach, wat dan op drie voorbeelde in Jordanië, Brittanje en Amerika toegepas is. Hier is Akteurs, Faktore, Tyd (geleentheid) en Ligging gebruik as die vier primêre indekse om die terreur aanvalle wat tydens musiekfeeste plaasgevind het, te ontleed en te benader. Daardeur is getoon dat scenario's soos hierdie geklassifiseer moet word as hoë impak, lae waarskynlikheid gebeure in PRA en nie as “Black Swan” nie. Verder kan die impak wat hierdie gebeurtenisse op 'n land het, vooraf bepaal word deur die sosio-politieke status en beskikbaarheid en kapasiteit van hulpbronne, wat beteken dat die relatiewe benadering of versagtings strategie geïmplementeer kan word. Die studie sluit dan af deur te sê dat die “Black Swan” nie as 'n klassifikasie van gebeure in PRA toegepas kan word nie.

ACKNOWLEDGMENTS

What a time to be (barely) alive.

I didn't think I would get to the stage of writing my acknowledgements. Although in all honesty, I still have a chapter to write and this is what I call 'productive procrastination'. Nevertheless, here we are.

A special thanks must be made to my supervisor, Dr Derica Lambrechts. Thank you for the endless support and encouragement throughout these last two years. You took my academic dreams of writing a 'meaty' thesis and boy, oh boy, did you run with it. I have come to appreciate your big, bold and red "SO WHAT's" as you have helped me raise this child. You are the ultimate Risk Queen and I am honoured to say that I was supervised by you. I now have an incredible role model and a friend. When are we writing that book?

To my wonderful family, Mom, Dad and Becks. Thank you for supporting me through the days where I felt strong, inspired, motivated, demotivated, emotional and exhausted. And especially on those when I felt them all at once. You have sacrificed of yourselves so that I may reach my dreams and this is a love and kindness I will forever be grateful for. Mom and Dad, you have built roads and highways for Rebecca and I to be all, achieve all and overcome all.

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Peace out, "Black Swan".

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LIST OF ACRONYMS AND ABBREVIATIONS:

Assumption Based Communication Dynamics	ABCD
Enterprise Risk Management	ERM
Federal Bureau of Investigation	FBI
Gross Domestic Product	GDP
Islamic State of Iraq and the Levant	ISIL
Multinational Enterprise	MNE
Non-government Organisation	NGO
Political Risk Analysis	PRA
Principles for Responsible Investment	PRI
Research Alliance for Disaster Risk Reduction	RADAR
United States of America	USA

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CHAPTER ONE: INTRODUCTION

1.1. Introduction and Background to Study

1.1.1. History of the Black Swan

During the period of the Old World[1] scientists were convinced that all swans were characteristically white in colour, which was proven so by the empirical evidence of the time. However, between 1660-1697, Antonie Caen, a Dutch sailor first sighted black swans near Bernier Island off the south-western coast of Australia. By this, what was previously considered to be absolute was drastically altered to accommodate the discovery of the new swan species (Taleb, 2007:xvii).

The importance of this does not lie within the discovery of the bird, the black swan but rather that it illustrates the limitation humans have on the process of learning through observations and experiences. This emphasises the fragility of knowledge and how it may be applied. Through the discovery of the black swan species, it became evident as to how a singular observation has the power to invalidate, restructure and reorganise a general statement or belief derived from previous confirmatory events or sightings. The surprising discovery of the black swan illustrates the fragility of a person's belief system and knowledge capacity as experiences have the ability to create fallacies about the world and what is to come. As a result, this has significant determinacy on insights and approaches employed to forecast critical junctures in risk analysis and decision-making (Lindaas & Pettersen, 2016:1231). This process of limited learning therefore provides the premise for significant shortfalls in scenario planning, mitigation strategies and approaches towards surprising social, political or economic events. It is here that the overlapping understanding between risk assessment and risk management in Political Risk Analysis (PRA) needs to be further clarified in order to discover the possibility of successful approaches to high impact, low probability risks and events.

By analysing how a false sense of understanding has the impact to derail approaches to scenarios, this substantially increases the potential for large-scale impacts in conjunction with investment opportunities, foreign exchange or the well-being of a business through the lens of PRA. When considering high impact, low probability events (which can be defined as those which are not likely to occur when considering the social, political and economic trajectories

[1] The Old World Period characterises the 19th century. The discovery of the black swan species in Australia is contested, however, occurred between 1660 -1697.

of a society) through successful approach strategies, PRA is able to provide a confident navigation of these cases in a world which is characterised by large scale uncertainties, risk and an ever-increasing complex international environment. Subsequently, with the understanding of how the black swan was discovered and the impact it had on ornithology, this provided the foundation for the development of the Black Swan Theory developed by Nassim Nicholas Taleb. This theory is comprised of a high impact, low probability event and how humans fail to clearly identify and assess indicators which may deter it. The term 'Black Swan' has since then been used by political risk analysts, economists and social anthropologists when explaining unpredictable and undirected events which take place in the world in the 21st century (Aldous, 2009).

The concept of the Black Swan in relation to high impact, low probability events gained further attention when Donald Rumsfeld, the Secretary of Defence between 2002 and 2006 in the United States of America (U.S.A) considered its nature and characteristics through the following statement at a news briefing. This statement was made in response to the lack of evidence linking the government of Iraq with the supply of weapons of mass destruction to prominent terrorist groups at the start of the war in Iraq;

> "There are *known knowns;* there are things we know we know. We also know there are *known unknowns*; that is to say we know there are some things we do not know. But there are also *unknown unknowns* – the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tend to be the difficult ones."
>
> – 12 February, 2002, Department of Defence news briefing.

By this statement, events which have the potential to shape political, economic and social trajectories can be categorised into three subcategories. The first of these are events and variables which we know and have experienced, the *known knowns*. These are easily approached through already established political risk models. The second subcategory are events which we know but have yet to experience them, the *known unknowns.* These risks are identified and forecasted alongside an established and operational risk model. They are classified as 'normal' risks and are easily approached (Day, 2012). The third and final subcategory of events is the *unknown unknowns*. Due to their *unknown unknown* nature, it becomes increasingly difficult, some argue impossible, to forecast and approach events of this

nature. Risk analysts do not know what they do not know and therefore cannot apply the relevant knowledge and insights to forecast events and successfully approach them. This therefore speaks to the extreme element of surprise that is intrinsic to a Black Swan event. Taleb refers to this as an outcome arising from of a low probability status as there have been no previous events of its kind that would point to its occurrence (Taleb, 2007: 12). The inadequacy and shortfall of these risk assessments is therefore what allows for a Black Swan event to occur. This can result in largescale devastation as a consequence of ill preparedness due to the unforseeability of the event.

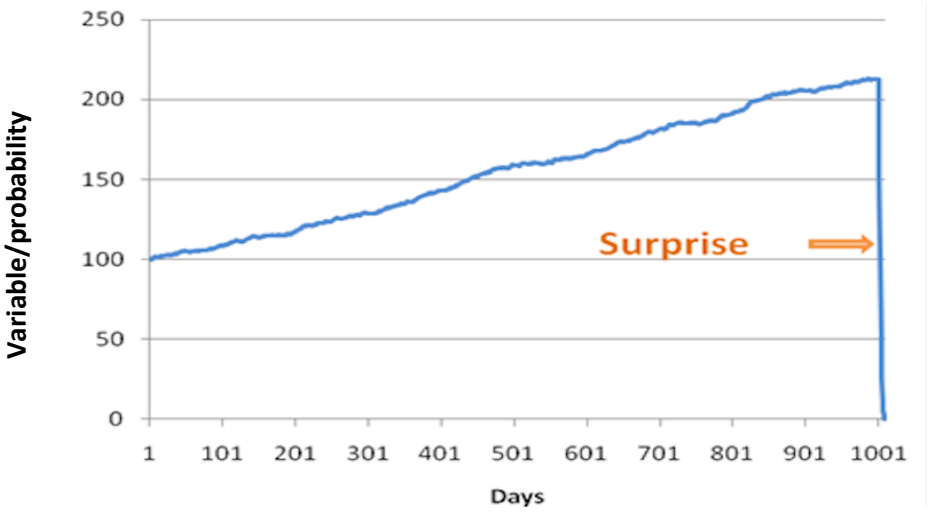
Taleb defines a Black Swan event as political, social or economic risks which he considers as outliers. He puts forward three primary characteristics of a Black Swan event and explains why they are so irrevocably unavoidable. The first of these characteristics is that these events are construed to be ones which expand beyond the logical capabilities and understanding of the human mind as they occur outside the realm of regular expectations. Second to this, they carry an extreme impact and as a result will have a significant influence on a country's social, political and economic trajectories. The third characteristic of a Black Swan event is that regardless of its outlier status and unpredictability, Taleb mentions that it is human nature to attempt to account for these events. Here, he mentions how risk analysts fabricate explanations and so therefore, a Narrative Fallacy is created. Once a Narrative Fallacy has been construed, the fallacy makes the event explainable, calculable and therefore predictable for future cases of a similar nature (Taleb, 2007: xviii).

Additionally, Taleb suggests that predominant reasons for the lack of foresight in anticipating and successfully approaching risks is because of the psychological limitations of human thinking and decision making. This creates a paramount obstacle not in the nature of these said events, but rather in the way they are perceived, understood and therefore approached (2007:21). However in contrast to this, other academic authors critique Taleb's theory by saying that events of extreme risk and surprise can be successfully approached by analysing relevant indicators and factors. Of these factors, some of the most fundamental include the corresponding actors involved, the location of this event, and the timing and the nature of the event (Lindaas & Pettersen, 2016:1233).

Furthermore, Taleb mentions that the way in which a Black Swan event can be visually represented is through the plotting of a series of political, social and economic events which occur at a consistent rate. These would be classified as *known known* and some *known unknown*

events. When a Black Swan occurs, the element of surprise and devastation significantly disrupts the consistent trajectory and can be seen in a sharp and rapid decline (2007:41). He mentions that examples of these declines and disruptions are the Wall Street Crash of 1929, the end of the Cold War in 1991, the terrorist attacks of 9/11 in 2001, the Global Financial Crisis of 2008 and the Fukushima nuclear disaster of 2011. Below an illustration of a Black Swan event can be seen.

Figure1: A Visual Representation of a Black Swan Event



Source: Taleb, N.N. 2007:41.

By analysing this visual representation of a Black Swan event, the numbers on the horizontal axis are representative of the increasing probability that social, political and economic events may occur. The numbers seen on the vertical axis are shown to illustrate the number of days which pass before a surprising event with an extraordinary impact takes place. As more days pass, the probability of an event increases, leading to disturbance and destruction. The probability presented by these variables culminates in a point of capstone which can be described as the Black Swan event, as seen by the sharp decline. The severity of this decline is indicative of the surprising nature as well as the impact a Black Swan event has on a society, organisation or business venture.

1.1.2. Black Swan Theory and Political Risk Analysis

Although the Black Swan Theory and its resultant events speak of high impact, low probability risks and related events, the shortcomings of its foreseeability lie within the technique

employed by risk analysts and decision-makers in PRA. Taleb states that psychological blindness to informational clues has a direct influence on the way in which events are perceived and therefore approached. This, along with what he calls 'aggressive ignorance', is how a Black Swan event comes to fruition (2007:21). This ignorance as described by Taleb suggests that decision-makers and risk analysts pursue information from a place of emotional bias and personal experience. As a result of this, the information needed to strategically approach events in risk management becomes warped, resulting in often inaccurate approaches and missed targets.

Although Taleb mentions that these events are inconceivable, there are methods and models which have been developed and implemented on a basis of probability to forecast events in PRA. An example of this is the Bell Curve or the Monte Carlos Simulation. However, Taleb mentions that approaches based on probability ignore large deviations and this results in uninformed strategies and a warped understandings of their uncertainty. There are various other quantitative approaches which have been established. These include probability statements, engineered risk management, Geographic Information Systems (GIS) and methods of robust optimisation. Additionally, there are a number of qualitative approaches which have been successfully implemented in PRA. Some of these examples include scenario planning, early warning signals, reasoned imagination, diplomatic approaches and adaptive government approaches. These approaches will be further explained in chapter three.

Regardless of these multifaceted approaches to Black Swans, the possibility of a surprising political, economic or social event taking place is still prevalent. Taleb mentions that this is because of the way in which risk companies conceptualise and subsequently operationalise their understandings of risk, which notably exclude the measure and possibility of a Black Swan from occurring (Taleb, 2007: xviii). Although the conceptualisation and operationalisation of these risks have a fundamental role in determining the approaches, Taleb (2007:19) as well as Lindaas and Petersen (2016:1232) add that it is the perception of decision-makers and risk analysts which fosters conceivable expectations which set the agenda for approach strategies. This results in these strategies being based on psychological perspectives and boundaries, constituting greater complications in nearing high impact, low probability events. Furthermore, Taleb mentions that on account of the fact that forecasters have access to advanced knowledge regarding variables and possible outliers, this should seemingly propel them towards successful and achievable forecasts and approaches to events. However, because

they are proficient only at predicting ordinary events, their capabilities in considering irregular variables results in their failure to forecast opportunely (2007:149-150).

Although it is acknowledged that there are both psychological and practical limitations on the conceptualisation and operationalisation of Black Swan events, Lindaas and Pettersen claim that there are no events that are so impactful or irrevocably unpredictable that they become a Black Swan (2016:1232). Additionally, they consider how the current political risk models might not be equipped with adequate insight and understanding to foresee and approach risks leading to Black Swan events. In order for this to become more achievable in PRA, the concept of the Black Swan should be adapted and clarified in order to establish successful approach strategies so that decision-makers and risk analysts are able to identify risks and forecast events efficiently. Through an evaluation of the Black Swan, this will allow high impact, low probability risks to become identifiable and computable through PRA. Approaches to these events therefore becomes feasible as psychological limitations are eliminated as the relevant knowledge and insights are considered without bias. It is therefore necessary to evaluate Taleb's Black Swan and its applicability in PRA. This is the primary focus of this thesis.

1.2. Preliminary Literature Review

This preliminary literature review will set the foundation for the literature presented on Black Swan theory in relation to PRA. Oppositions to and critiques of to this theory will be further considered in chapter two. Here, Taleb's Black Swan theory is considered alongside some of the important primary criticism made by other academics.

To remind the reader of the characteristics of a Black Swan, firstly it is an outlier as it lies outside the realm of expected events. Secondly, because of the element of surprise it carries, it results in extreme devastation. The third and final characteristic of a Black Swan event is that, in spite of its outlier status, human nature encourages analysts and decision-makers to develop explanations for its occurrence after it has taken place – this being known as a Narrative Fallacy (Taleb, 2007:xvii-xviii). Taleb considers events of this nature to occur as a result of the fact that decision-makers and risk analysts learn with too much precision, instead of considering the general variables and the context in which a Black Swan would occur. By acknowledging this, the way in which a Black Swan can be formally categorised is through inductive logic, whereby a specific premise is formulated by considering general conclusions, therefore alluding to the limitations it sets for decision makers and its ultimate unpredictability

(2007:27). Additionally, Taleb mentions that by averaging a sample based on past experiences, occurrences and matters of probability are insurmountable for the reason that a Black Swan event is based on a single and previously unidentified observation. This provides the assertion that it is a matter of Extremistan. He mentions that when one considers the flawed methods and approach Black Swan events, they are in fact being created at the hands of these decision-makers and political risk analysts as a result of their lack of foresight (2007:18).

Blyth (2010) similarly mentions that sample experiences and occurrences only produce the outcomes associated with them, whilst risk analysts in PRA fail to consider the invisible, more complex generators that are more closely linked to the nature and characteristic of a Black Swan. Additionally, Blyth notes that decision-makers and political risk analysts assume that sampling past outcomes is a sufficient guide to what future events may look like; however they fail to consider the impact invisible variables and more complex outcome generators linked to the understanding of a Black Swan may have. He states that agents and their assumptions fail in effectively approaching a Black Swan as they only consider outcomes which are associated with past experiences. Blyth believes this to be a fundamental reason as to why Black Swans are professedly unpredictable to political risk analysts, is that by believing a sample of past experiences and occurrences a Gaussian World[2] is established and Black Swans are essentially missed. Additionally, Blyth mentions that these seemingly invisible and complex outcome generators should not be considered as fixed, but rather that they have the potential to produce different results than they did in the past (2010:450-451).

Moreover, Blyth further contemplates Taleb's notion of Mediocristan and Extremistan by formulating the Four Quadrants of Talebism (see Table 1 below). This allows risk analysts to consider the dynamics of risk versus uncertainty. In and amongst these two categories, risk analysts are able to greater understand the vulnerabilities for Black Swan and Fat Tail Events[3] and how this increases their probability. This is represented in the Four Quadrants of Talebism, whereby Blyth has categorised variables, their observability and their impacts into four sub-

[2] The term 'Gaussian' is used predominantly when considering statistical or economic distributions. This means that the data under examination is normally distributed. Blyth (2010:450) states that a Gaussian World is one whereby the samples are collected and reworked to remove irregularities, in order to build a more predictable world, even if this means that the data is skewed. As a result of forecasters and decision-makers working with skewed samples, this initiates the foundation for a possible Black Swan event.

[3] A Fat Tail event is similar to that of a Black Swan event however, it is primarily used in financial risk management. A Fat Tail is a statistical distribution describing the probability of certain events (Bremmer & Keat, 2007:10-11).

categories. Here he explains how each quadrant represents how and why specific methods and approaches work for or against certain variables and how the probability of Black Swan or Fat Tail events occur. In addition to this, Blyth notes that the world primarily operates from the fourth quadrant of Extremistan, characterised by complex payoffs as a result of the decision-making process. Blyth puts forward that decision-makers and political risk analysts are only able to approach events of risk from the third quadrant, which is characterised by Extremistan and simple payoffs (2010:451-452).

Blyth differentiates between risk and uncertainty by stating that risk occurs where there are visible outcome generators whereas he defines uncertainty to be characterised by invisible, non-linear, complex payoffs and non-scalable probability distributions (2010:452). As a result of the fundamental differences between risk and uncertainty, overlapping of the two definitions and understandings create substantial downfalls in risk management and approach strategies (2010:448). In addition to this, he puts forward that risk occurs where there are viable and understandable outcome generators in which sampling of the past is able to converge into a believable mean and variance, which therefore allows for effective approaches to these risks to be implemented. An illustration of the Four Quadrants of Talebism, based on what has been initially developed by Taleb in 2007, is shown below in Table 1.

Table 1: The Four Quadrants of Talebism Source: Blyth, M. 2010:452.

	Simple Payoffs	Complex Payoffs
Mediocristan (thin tales and approachable risks/uncertainties).	**Quadrant 1:** Simple binary decisions – statistics and probability are reliable.	**Quadrant 2:** Statistical evidence prove to work well.
Extremistan (Fat tails, non-scalable probability distributions and potential Black Swans).	**Quadrant 3:** Statistics and probability still work, but not many simple decisions are found in Extremistan.	**Quadrant 4:** Statistics and probability will not be effective – this is considered the niche domain for Black Swan Events.

In review of this, Blyth acknowledges that although there are extremely improbable events where risk analysts appeal for more data and better approaches towards Extremistan, this falls short of a successful approach. Black Swans occur primarily in the fourth quadrant. However, knowledge, methods and statistics are chiefly formulated and operationalised from the first to the third quadrants. As a result of the limitations of knowledge and strategies formed, this

makes the Black Swan event unimaginable and therefore unapproachable. Therefore, technologies, methods and approach strategies which allow for successful identification of risk and uncertainty from the first to the third quadrant are similarly assumed for the fourth, and that this is seemingly why Black Swan events occur without warning (2010:453-454). Moreover, Taleb notes that a majority of social, political and even economic matters formulate events of Extremistan. This phenomena creates a comprehension disparity of what is able to be successfully understood and approached versus that which cannot as a result of knowledge and insight limitations. Thus the successful forecast and approach to the risks leading towards a Black Swan event is obstructed (Taleb, 2007:33).

According to Blyth and Taleb, statistics cannot be effectively utilised to approach events in the fourth quadrant. Although, Blyth claims that risk analysts seemingly focus on the wrong variables and outcomes, he too contemplates whether or not Taleb's work on the Black Swan suggests a more troubled world than what is actually present. He mentions that it must not be forgotten that people have lived in a world whereby economic growth has increased and political freedoms and governmental structures have been established (2010:455). He further argues that the world which Taleb uses to create the premise which would characterise a Black Swan event may be a warped version of the world in which we actually live.

Aven mentions Dennis Lindley, an advocate for the particular use of the Bayesian method of probability, who states that what has been contrived by Taleb is false and can be discredited. He implies this by saying that the way in which Taleb has conceptualised and operationalised Mediocristan and Extremistan is unrealistic, in that the former simply captures placid randomness through haphazard approaches, whilst the latter considers randomness too wide and dramatic outcomes for approaches to even be slightly effective (2013:44). Furthermore, Aven makes mention that fundamental hindrances in being able to successfully approach a Black Swan, occurs through the type of assumptions employed by decision-makers and risk analysts. Here, it is assumed that all swans are white (in that they will not have the same characteristics and impacts as that of a Black Swan event, meaning that the risk is identifiable and approachable) and by doing so, it excludes the possibility and necessary approaches to events in the unforeseeable context (2013:45-46). It can therefore be concluded that with the correct utilisation of knowledge probability, approaches to a Black Swan can be implemented. Any failure in attempting to do so is thus a reflection of the risk analysis itself and its possible shortcomings (2013:47).

Subsequently, Lindaas & Pettersen mention in their analysis that there cannot be an event so irrevocably unpredictable and devastating that it assumes the characteristics of a Black Swan. These authors mentioned too how the environment which Taleb describes as suitable for the occurrence of a Black Swan is warped and over exaggerated. Furthermore, their primary claim is, that unlike Taleb, they believe that although there are unpredictable features of a Black Swan, forecasting may be useful in a world with an increase in events of this nature. It is here where Lindaas & Pettersen oppose the predictive scepticism of Taleb, as they argue that uncertainty is developed in various formats and that by virtue of this, not all Black Swans are essentially 'black' (meaning unpredictable and unapproachable) (2016:1232).

Additionally, they mention that by including *unknown knowns* into the conceptualisation and understanding of high impact, low probability events, this will minimise their devastation, making them significantly more computable in PRA. Through this analysis and reformulated operationalisation, they consider methods of 'de-blackening' to make the Black Swan more foreseeable and approachable. Moreover, they mention that a fundamental handicap in the successful approach to a Black Swan is in its 'prediction'. The authors mention that Black Swans become more understandable and approachable by methods of foreseeing toward the extension of information and facts for de-blackening rather than foreknowing. It is in this that their primary critique of Taleb's analysis is founded. Furthermore, they consider imaginative principles of increased communication and the development of ideas and concepts as a mechanism for widening the territory of 'predication' in order to generate the process of de-blackening and establish a successful approach (2016:1233).

Similarly, Financier (2013) acknowledges the way in which risk companies and their clients should approach risk and events of uncertainty by saying that organisations should examine their approach and mitigation strategies. He also mentions that when considering potential high impact, low probability risks, risk analysts should focus on the strength and resilience of the approaches already established. Political risk analysts therefore should employ techniques such as scenario planning, stress testing and supply chain analysis in order to identify relative risks and trends which could lead to high impact events. However, Financier additionally mention that when these techniques of approach towards high impact, low probability events fail, this should serve as a strengthening mechanism against possible future scenarios of uncertainty. When these mechanisms of risk management fail to work successfully, these failures will

contribute to keeping PRA robust and accurate. The more risk managements fail in their approaches, the more opportunity for accuracy and strengthening is presented.

Similarly, Fox and Williams (2013) claim, that although traditional risk methods and approaches are essential in considering the important social, political and economic variables, that this does not create a dependable method in forecasting and approaching Black Swan events. There is an increased risk that variables with higher consequences attached may be entirely missed. They therefore suggest that risks and their predestined variables should not be considered in isolation or mutually exclusive of each other, but rather as components of the greater functioning of an uncertain world.

In addition to this, Lindaas and Pettersen contemplate the characteristics and definition of what it means for a Black Swan to embody an 'outlier status' and determine that, by this, Taleb's description of a Black Swan is seemingly disqualified. They mention that the definition of an outlier, being an event taking place outside the realm of expectation in that nothing previously points to its existence, is that the expectation of the outlier still exists. Therefore, based on this the definition of a Black Swan consisting of *unknown unknown* events, it suggests that there should be no expectation of an unknown event to take place. Therefore the definition of an outlier is in conflict with how Taleb defines a Black Swan and the risks comprising it. These respective definitions cannot coexist in partnership with one another (2016:1234). The nature of the Black Swans and its unforseeability will be further deliberated upon in chapters three and four.

One of the primary claims Lindaas & Pettersen make is that the idea and occurrence of a Black Swan is inherently perspectivistic and that their uncertainties and associations depend upon the eye of its beholder. They state that the event itself is not a Black Swan to those who plan and execute events of devastation. An example of this is the terrorist attacks of 9/11, in that even if the event was classified as a Black Swan to victims and other parties affected, it cannot be considered as one to those who conducted the attack. By considering this, the authors mention that a Black Swan event is only a Black Swan for those it effects, and the impacts of such may vary. Moreover, it is stated that the outlier status of a Black Swan event is not permanently static and can be approached successfully through an increase in knowledge and understanding of the variables and factors which contribute to its initial occurrence (2016:1235).

Bremmer & Keat considers the eventuality of unforeseeable events with a seemingly high impact in what they consider as 'Fat Tails'. Fat Tails occur when there is an unexpectedly thick end or 'tail' which occurs towards the ends of a distribution curve, or bell curve, indicating an irregularly high likelihood of catastrophic events. These Fat Tails are indicative of the particular and potential risks of an event occurring; however due to the difficulty in the forecasting of these events, their possibilities are often ignored, thus increasing the occurrences for potential Fat Tail risks and events (2007:10-11). Additionally, Bremmer and Keat mention that risks such as global warming and its impacts, nuclear terrorism and revolutions can only be mitigated and not completely eliminated. They claim that this can be done when companies shape their environment successfully which allows decision-makers and risk analysts to approach risks which may lead to Fat Tails and Black Swans with increased precision. One of the ways they suggest organisations approach these events is through preventative programmes which are formulated and cater specifically to the requirements of the client. It is here where they suggest that the specific approach to a Fat Tail or Black Swan has an industry specific element which should be heavily considered (2007:34).

Subsequently, Bremmer and Keat have established a variety of techniques and methods which they believe are effective in approaching and preparing for events of the unknown. These include; methods of isolation whereby clients are encouraged to isolate or separate critical assets in order to lower their overall vulnerability, therefore ensuring that not all of their critical assets will be open to the threats of these events. Secondly, they recommend that warning systems and political forecasting methods be established so as to be used as a contingency. This will essentially allow for decision-makers to become increasingly aware of impending threats. Thirdly, Bremmer and Keat encourage investors to forge alliances with private corporations, Non-Governmental Organisations (NGO), international organisations and private stakeholders. By creating these relationships, an increased level of facilitation and coordination between the levels of government and private organisations is established which will therefore increase responsiveness and accuracy when approaching Fat Tail and Black Swan events. The fourth technique suggested is environmental shaping. Here, they state that mitigating risks and being proactive in approaching potential Black Swans can take place by influencing the environment in which they have invested. This can be done by speaking directly to stakeholders and maintaining friendly relationships with local social and political leaders, thus creating an environment whereby disputes can be quickly resolved (2007:30-32). By considering these alternative strategies and techniques to potential Black Swans and Fat Tails, one is able to

determine that risks of this nature are contemplated correctly and can be approached effectively.

Although Black Swans originate from *unknown unknown* variables and dimensions, by acknowledging the sample literature review presented above, it can certainly be said that authors who have considered the characteristics and nature of the Black Swan are in definite contention regarding its conceptualisation and approach. Whilst Taleb states that there is no way in which one can successfully approach a Black Swan, other authors such as Blyth, Lindaas & Pettersen and Bremmer and Keat present a variety of both quantitative and qualitative methods in which investors are able to consider and utilise impending threats. Here they acknowledge that through refined conceptualisation and operationalisation, successfully approaching a Black Swan is seemingly not as obscure as suggested by Taleb. With this in mind, it is upon this foundation that the main research questions and subsequent aims and objectives for this thesis were formed.

1.3. Problem Statement and Focus of Study

The way in which a Black Swan has been understood has affected how it is approached in PRA. Regardless of the multiple quantitative and qualitative methods aiming to make high impact, low probability risks and related events foreseeable and approachable, these methods and strategies are hindered by the fact that events of this nature have been considered unapproachable. These incapabilities and shortfalls thus extend into the development and implementation of PRA models. This thesis therefore aimed to evaluate the Black Swan and varying developed approaches in PRA. This evaluation considered the applicability of the Black Swan in PRA and whether or not it can still be used to classify events. The author contemplates the notion that a Black Swan is inherently perspectivistic. The evaluation was done with the location of the event and its devastation in mind. In doing so, a novice approach will be applied to three examples in order to consider if they can be classified as Black Swans in PRA or not.

1.4. Research Questions and Objectives

In order to provide sufficient recommendations on how the Black Swan should be approached in PRA, there are research questions and objectives that aim to be acknowledged through the analysis of this thesis.

The first question:

Does the evaluation of the Black Swan theory change its relevance in the discipline of PRA?

To answer this main question, there are two sub-questions which will guide this analysis and its answering;

What are the characteristics of Black Swan events?

And secondly:

How can high impact, low probability risks and related events be approached in Political Risk Analysis?

These questions guided the evaluation of the Black Swan theory and its relevance and applicability in PRA. The evaluation will be considered through a number of avenues in order to determine this.

1.5. Research Design and Methodology

The research methodology used to evaluate Taleb's Black Swan theory in this thesis has been done through qualitative methods. A qualitative research methodology is characteristically exploratory of reasoning and theory in its nature. This study was a done through desktop research, comprising of secondary data as well as semi-unstructured key informant interviews. The qualitative research methodology was therefore most effective in the consideration of the amount of theoretical information collected and analysed. A review of the underlying reasons, opinions and motivations as to why academic authors and risks analysts have varying opinions on the Black Swan and approaches towards high impact, low probability events were considered. By doing so, increased insights were provided, allowing high impact, low probability events to be approached. This will be done by considering a variety of factors as proposed by this study. This allowing for the examination of the generalisations surrounding the theory and how it has been enigmatically understood in PRA (Burnham *et al.*, 2008:40).

Using qualitative research methodology, the analysis of the Black Swan theory took place primarily through the consideration of secondary sources such as journal articles, books and websites from the Stellenbosch University Library. Additionally, other online databases were used for further consideration and analysis. Furthermore, as the research conducted is

predominantly theoretical and analytical in nature, this study should therefore be considered as a desktop study.

The data was collected through semi-unstructured interviews at the University of Stellenbosch, where three interviews took place. The aims of these interviews was to determine what academics in future research, scenario building and disaster management consider as a Black Swan and the possibility of approaching them. The respondents were asked whether or not they agree with Taleb's Black Swan theory as a form of classification of high impact, low probability events. In addition to this, interviewees were asked if a Black Swan was an event which affects all, regardless of industry or location. These questions provided the foundation for the interview, however specific questions related to their respective fields were asked too.

Furthermore, the prescribed outlines of a critical literature review is used to analyse the gathered textual data. It was then for the researcher to determine the importance of the content of the data by means of his/her judgement. This therefore implies that was for the researcher to decide upon the value and interest of the material considered and presented. The researcher has accordingly determined which sources proved to be most useful and appropriate when considering the evidence which is analysed and presented (Burnham *et al.*, 2008:259).

Alongside this methodology, this study was simultaneously constructed around the research design of an evaluation of the Black Swan theory developed by Nicholas Nassim Taleb. Although this can be used alongside both quantitative and qualitative research methods, for the purposes of this thesis, a qualitative research methodology and case study design on the Black Swan theory was most effective in conducting the evaluation (Burnham *et al.*, 2008:62). This allowed for the exploration of a wealth of theoretical data, guided by the methodology and aims and objectives. By conducting a critical case study on the Black Swan theory, the thesis investigated and tested the proposed theory through an evaluation in order to identify the possibilities of alternatives and successful approaches to high impact, low probability risks and related events in PRA.

1.6. Ethical Consideration

Since primary data was collected, ethical clearance was applied for from the Department of Ethics Committee, at the University of Stellenbosch before data collection.

1.7. Outline of Chapters

The above mentioned evaluation and analysis is structured by the following outline of chapters:

Chapter 1: This chapter provided a brief outline and introduction of the study conducted surrounding Black Swan theory. By doing so, it outlined the aims and objectives of the research, and its questions. Additionally, the chapter described the research methodology and research design of the thesis.

Chapter 2: This chapter offers a detailed contextualisation of Political Risk Analysis and the Black Swan theory whereby critiques to what has been understood as a Black Swan will be identified and discussed. The Black Swan's limitations and the delimitations of the theory will be examined as well as how events of this nature can be approached. Furthermore, political uncertainty and instability are discussed and how this can lead to high impact, low probability events. The chapter further considers the various terminologies and understanding of the Black Swan theory and its related events.

Chapter 3: This chapter is devoted to the critiques, oppositions and alternatives for Taleb's Black Swan theory. The conceptual limitations of Taleb's theory and how this essentially has resulted in the constrained foreseeability of events of the unknown are evaluated. Furthermore, the work of other academic authors will be presented in order to further emphasise this as well as their proposed approaches for high impact, low probability risk and related events.

Chapter 4: This chapter focuses on identifying the factors and indicators which allow for successful approaches to high impact, low probability risks in PRA. A Novice Approach comprising four primary indicators - Actors, Factors, Time (opportunity) and Location will be applied to three examples of events which have taken place in different locations. The chapter will show that when this approach is applied in a risk analysis, that event can be forecasted or effectively mitigated. In addition to this, the approach will show how resource availability and capacity of a specific location significantly determines the impact and devastation of these events as well as their time of recovery.

Chapter 5: This concluding chapter will present the conclusions of the analysis and the findings. The chapter will also present implications for future studies in PRA.

1.8. Conclusion

In summary, this chapter should be considered as a guideline of the evaluation of the Black Swan theory and its applicability in PRA. Here the characteristics and nature of a Black Swan have been mentioned and defined as well as the varying opposing arguments and critiques. By analysing this, it is necessary to consider the limitations of Taleb's Black Swan theory and how this is problematically understood and applied to high impact, low probability events in PRA. By evaluating how the Black Swan is conceptualised by Taleb alongside critiques and alternatives presented by other authors, this will determine its applicability in PRA. This will be done in the following chapter.

CHAPTER TWO: A LITERATURE REVIEW OF POLITICAL RISK ANALYSIS AND THE BLACK SWAN THEORY

2.1. Introduction

When considering PRA and the challenges a Black Swan event may have on approaches and models, Bremmer and Keat state, 'Often it is not easy to deconstruct political risk in terms of its causes, probability, and impact. That does not mean that the process of analysing difficult issues is not valuable" (2009:5). Rather, in this study, the opposite of this statement is vitally important. It is essential to evaluate the Black Swan in relation to PRA in order to understand the possibilities of making what we essentially do know to be more admissible than what we do already know. This would therefore establish a successful approach to high impact, low probability events. In PRA, it is important to assume a certain degree of uncertainty about future scenarios. However, although uncertainty shapes the prowess of an approach, that it is important to identify the environment, actors and additional factors which shape this uncertainty. Once this has been identified and considered, the element of its surprise and the impact of its occurrence becomes significantly marginalised.

Alongside the primary consideration of the Black Swan theory, it is necessary to understand the conceptualisations and opperationalisation surrounding PRA and how risk assessments and approaches confront deep uncertainties. With the objective of understanding the inner workings of a Black Swan event, there should be a clear comprehensions of PRA, its approaches, methods and strategies. Once this has been considered effectively, one will be able to understand the limitations of the approaches towards Black Swan events. By doing so, an effective evaluation of the Black Swan and its applicability to PRA is undertaken.

This chapter will examine and critique the literature presented on both PRA as well as the Black Swan theory. It is important that this is done in order to acknowledge the conceptual growth of PRA and whether or not a Black Swan can be used as a classification of events in PRA. As previously mentioned, it is important to examine these as separate concepts before contemplating how they lend themselves to either risk management and assessment or events of significant devastation.

2.2. Political Risk Analysis: A Literature Review

When considering the theory of PRA, it is important to make mention that the related conceptualisations, limitations and delimitations have been widely debated and contested amongst academics. How PRA has been conceptualised and thus operationalised is particularly difficult and has resulted in performance and accuracy discrepancies. It is here where the tension between quantitative and qualitative approaches towards risk management arises. It is important to acknowledge that PRA has developed through its conceptualisation resulting in various approaches to risk and in doing so, has accommodated for the development of high impact, low probability events.

2.2.1. Understanding the Concept of Political Risk Analysis

Korbin is considered to be one of the first authors to theoretically engage with PRA. His conceptualisation of PRA was loosely defined as it was understood as a relatively new field in academia. Additionally, PRA as a technique to approach and manage events of risk and uncertainty is also considered to be a new strategy in risk analysis (1979:69). Since the publication of his work on the definition of PRA however, there have been significant conceptual and operational developments, thus providing the grounds for more effective approach and mitigation strategies. Kobrin furthermore mentions that most analysts misunderstand the concept of political risk which has significant effects on the assessment and evaluation of politics. Therefore, the integration of the accumulated political information into a system of decision-making is general, subjective and superficial. It is here where the downfall of a successful approach begins.

Many scholars of political risk consider it to be an event which occurs, such as a form of instability (social, political or economic), or in conjunction with the environment (such as a process of nationalisation). Kobrin states that this is associated with the actions and decisions of a government and thus yields unfavourable consequences for the client in question. Therefore, it is determined that political risk is the risk or probability of the occurrence of some political events which results in the influx of profitability of a given investment (Korbin, 1979:68). Subsequently, Robock (1971:7) considers the operational definition of political risk to be when risk in international business exists as a result of discontinuities in the business environment, when they become difficult to anticipate and when they result from political change. He continues to say that while all political and economic environments are dynamic and have the impact to influence drastic shifts, changes which are gradual and progressive, are

neither unexpected nor difficult to anticipate and should not be considered as political risk. Robock acknowledges risk to be slow-motion and that will continue to develop over time. This development becomes foundational in PRA as it becomes apparent that it is possible to identify risks, anticipate their impacts and approach them accordingly. However, he mentions that although instability and its effects can be considered as political risk depending on the perspective its conceptualisation is developed from, it is essentially separate and not representational of risk in international business (1971:9). Whilst the distinction between political and economic risk is warranted and essential for specialised and accurate approaches, it must be noted here that progressive and expected risks should still be considered in risk management. The distinction between models which consider current events versus those which forecast events of high risk are different in compilation and execution.

Weston and Sorge (1972:60) define political risk as actions of the national government which interfere with or prevent business transactions, change in the terms of agreements, or cause the confiscation of wholly or partially foreign owned business property. Similarly, Aliber (1975:162) and Eiteman and Stonehill (1973:57), define political risk as governmental or sovereign interference with business operations. This can be further expanded to include political acts, constraints imposed on a firm, or a combination of both. Therefore, events which result in any disturbances for businesses are considered as a risk. The importance of such risks is observer dependent and is therefore determined by the nature of the business, and its location or industry.

According to Van Agtmael (1976:26-27), the difference in approaching political risk can be found in environmental factors such as instability, direct violence, corruption, one party dominance, expropriation, discriminatory taxation and the like. These factors and indictors have the potential to result in large scale disturbances, resulting in significant impacts on investments and other business operations. Similar to this, Brooke, Michaels and Remmers (1970:83), do not explicitly define the concept but rather consider the specific workings of the host country to be a source of political risk for the respective client. Therefore by this understanding of PRA, the state is considered as the primary source of analysis. How the host country has structured its government may be source of concern. Here risks between countries which are democratic or communists may vary and have differing impacts on investments[4].

[4] Investors may assume that investing in Western liberal democracies carries a lesser risk than investing in communist countries. However, authors have considered the pros and cons of each. Democratic countries are said to be more stable due to their increasing consolidation and institutionalisation. However, these countries

Simon (1984:125), considers political risk to be concerned with the identification, analysis, management and reduction of socio-political risks to foreign investments. Simon takes the concept of PRA further by analysing how the dyadic relationships between the state and multinational organisations are points of risk. He focuses on national interests, sovereignty and identity as the motivating factors behind the host government and the possible restrictions this may have on foreign business activity. In addition to this, Simon makes mention of Gurr's work on relative deprivation[5] which points to a high level of national frustration as a key determinant of expropriations. Here, the host government uses the Multinational Enterprise (MNE) as a scapegoat for the country's complications and societal frustrations. The method of scapegoating becomes a strategy in which a host government manages discontent, however, often at the cost of a healthy business relationship with the MNE (Zonis *et.al*. 2011:91). It therefore becomes clear that, through the understanding of relative deprivation that when the expectations and needs of societal members are not met, this leads to increased levels of frustrations and anti-government thought, resulting in large scale social and political instability. This can have significant effects on the risk of investing in a specific country and has the potential to lead to financial and political devastation. This instability, if not managed correctly could lead to high impact, low probability events. Political instability will be further discussed later on in the chapter.

When considering the abovementioned, PRA has been conceptualised with a predominant focus on either financial losses or gains as a result of either economic in/stability or political/social in/stability. Alongside this, Robock differentiates between political instability and political risk. He mentions that, due to the conceptualisation of political instability and PRA, although instability may result in elevated levels of risk, this is a separate phenomenon to that of PRA (1971:8-9). Therefore the two should not be considered as mutually inclusive. The understanding of political instability and PRA has become increasingly important to

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are more susceptible to political and social instability due to the fact that the government has a responsibility in satisfying the needs and desires of its population (Freedom House, 2018). See footnote below for more. Communist countries such as China, who have large investment opportunities, are considered as high risk ventures as their economic system pursues nationalist policies. Nationalistic policies consider monetary distribution as a primary characteristic that could be harmful to investors. However, because communist countries have a consistency about their policies in that they are not often reformed as in democratic countries, this presents stability for MNE's (Buckley, 2017).

[5] Gurr argues that relative deprivation is essentially a gap between a societal groups value expectations and the actual value capabilities of the country. He states that as this gap widens, the potential for revolutionary behaviour increases, thus leading to events contributing to social and political instability (1968:1104). Political instability is considered to be one of the major leading factors to high impact, low probability events, meaning the occurrence of a Black Swan.

decision-makers as events of this nature may affect their investments or lead to unforeseeable events. In contrast to this, Sottilotta (2017:12) specifies that, due to the intrinsically interdisciplinary nature of PRA, political risk as such has been neglected as a field of study and as a result, an agreed upon conceptualisation of the term has not been established. Furthermore, she makes mention that PRA still remains largely misinterpreted regardless of the large amounts of academic literature presented on the interlinked concept of political instability. She considers how political instability and PRA should not be considered separately when analysing risks. It will be shown how the conceptualisation and understanding of PRA has expanded to include the analysis of political instability, and how the two today cannot be considered mutually exclusive.

In reference to Korbin's conceptualisation of PRA, Haendal, West and Meadow (1975:63) similarly mention a clear distinction between the political event and the actual loss or gain to the firm. They note the consequences of any given political event for the foreign investor depend upon its nature, the conditions under which it occurs and the characteristics of the specific investment in question. Similar to this, Root (1972:355) states PRA to be the possibility of any political event (such as war, revolution, coup d'état, expropriation, taxation, import restrictions or exchange controls) at home or abroad which may result in potential profit or asset loss in an international business operation. Root makes a distinction between political and economic risk, stating there is an interdependence between economic and political phenomena. It is therefore the dynamics of the host country which either elevates or reduces the level of risk. If the host country is one comprised of a hostile environment, MNE's should be made aware that there is an increasing chance of citizen dissatisfaction and political instability which may lead to high impact political events.

Sottilotta (2013:2) mentions in her findings that the initial conceptualisation of PRA resulted from the influence economic/financial risk factors have. She puts forward that risk analysts were mostly concerned about investment disputes derived from economic nationalism or any other economic/financial risk which may negatively affect business ventures. She acknowledges two strategic events which took place that influenced international business and the nature of globalisation as well as how PRA is conceptualised and operationalised. The first of these two events was the ending of the Cold War in 1960, whereby the ideological contrast between socialism and capitalism[6] became the outlook for how risk was understood and

[6] The ending of the Cold War in 1960 resulted in a change in the global system whereby free market trade and planned economies had to be deliberated amongst international powers. In addition to this, the end of the Cold

approached. The second event places a greater focus on the likelihood of political events. Sottilotta mentions how the 1956 Suez Crisis[7] suddenly and drastically changed the political as well as the business environment. It was through these events that it became evident that the nature of the world order had begun to change, resulting in increased levels of uncertainty. These changes resulted in greater risks and the social, political and economic trajectories thereof became more unpredictable.

Furthermore, Sottilotta (2013:2-3) acknowledges a second wave of events which probed the rethinking of PRA. One such event was the Oil Shock in 1973. She says that with the increasing nature of events such as this, it became apparent that risk assessment and management needed to become integral parts of business ventures in order to develop approach and protection strategies. A third set of defining events once again challenged the conceptualisation of PRA. The terrorist attack of 9/11 on the World Trade Centres in the United States of America in 2001 have since alerted investors to the increasing prevalence and risk of terrorist activity and how this may negatively impact business ventures and social and political stability. Similarly, Berry (2010:14) puts forward that terrorism has become a source of concern for international investors and should be considered as a primary risk factor when conducting a risk assessment. He also mentions that prior to the 9/11 terrorist attack, investors separated terrorism and the insurance market as they believed that the one bore no impact on the other. However, Berry calls for MNE's to consider PRA as a prerequisite as a part of their Principles for Responsible Investment (PRI) whereby the dynamics of terrorism, extortion and other forms of political violence are incorporated into the conceptualisation and opperationalisation of PRA.

As risk had begun to develop to include previously unconsidered factors, risk analysts found that specified types of risks and risk models needed to be developed and implemented according to the needs and aims of MNE's. Sottilotta (2013:1) therefore states that Country Risk[8] is a necessary component to be considered complementary to PRA. This should be done in order to account for the causes of insolvency of a country that is not directly linked to

War marked the beginning of the decolonisation process of African and Asian countries. Here, these previously controlled countries fought for their political and economic independence, leading to a reshuffling of the world order and the international economy (Sottilotta, 2013:2).

[7] The Suez Crisis of 1956 happened after Israeli troops pushed into Egypt and into the Suez Canal. This occurred after the president of Egypt at the time nationalised the canal, limiting Israeli use of and access to the Canal. French and British actors then became involved due to their role in building the canal. However, this event was inevitable due to the changing nature of the global order at the time (History: Suez Canal, 2018).

[8] Country Risk is defined as the creditworthiness of a specific country. Here, capital flow, debt service payments, a country's default history as well as its external debt is investigated and measured as an economic risk (Sottilotta, 2017:12).

financial or economic factors. She mention that the risks of an MNE are largely economic based on the ability to service financial obligations, but it is not the only factor to be considered in risk analysis. A more contemporary understanding of Country Risk should refer to a wider range or risk, which do not only consider potential financial risks but also those which are more operational in nature (2007:3). Furthermore, Sottilotta acknowledges the academic writings of Howell, whereby he comments that Country Risk is of a larger scale, where the incorporation of economic and financial characteristics of a host country as well as political and social dynamics should be analysed. Howell states that by combining these disciplines and spheres, PRA increases the precision in its efforts at successfully forecasting situations which foreign investors will find problematic (2007:7).

With the understanding of Country Risk in mind, Busse (2006:399) and Simon (1984:127) state that when a MNE invests in any given country, it agrees to the laws of the country by immersing itself into its inner socio-political workings. Therefore, how the MNE will experience risk is directly dependent on the interactions between key actors and those in power. Busse puts forward that the degree of risk is solely dependent on the strategic behaviour of the MNE and that it is at liberty to minimise the effects of risk and instability by shaping its environments and developing applicable approach and mitigation strategies. Therefore, the way in which investors would do this is dependent on their specific environment, industry, aim and perspective of potential risks. Although the hostility of the environment is country specific, this can be navigated by the actions of the MNE, whilst still ensuring the profitability and safety of its investments.

Risks can be understood and approached through conceptual developments in PRA as well as through specific behaviours. However, Kansal (2015:2) gives a more contemporary definition of PRA. This definition acknowledges a wider range of potential risks and how these may affect investor outcomes, which other definitions may exclude. This definition constitutes political risk as being the future contingency of deviation of ex-post returns from ex-ante returns of a particular investment, which may be either profitable or unprofitable. However, although this definition is economic centric, the author mentions that there is no universally accepted definition of PRA. Some of the primary considerations within the conceptualisation that risk analysts and companies have chosen to include are region specific risk related factors and how these may be approached. This is done through the categorisation and conceptualisation of

micro and macro risks[9]. Political risk can either be systematic or unsystematic providing a paradox when it comes to defining political risk, making it important for investors to be able to shape the definition according to their sectors and business ventures. In addition to this, Kansal (2015:7) puts forward the view that another important aspect within the conceptualisation of PRA is that of the actions of government and non-government entities. He considers that these actions could have severe impacts on MNE's and other business ventures and should be analysed in a separate category. However, he states that although it is important to consider these risks separately, due to the fact that economic, social and political risks cannot be considered as mutually exclusive from one another, it should not be completely alienated in the risk assessments conducted.

By acknowledging how the conceptualisation of PRA has expanded in academia to include not only economic, political and social events, the investor or risk analyst is at liberty to construct his/her own definition. Bischoff and Lambrechts consider the primary purposes of PRA are the identification and forecasting of potential losses or events that have the potential to reduce returns (2010:60). They mention an additional function of PRA is to suggest strategies in which the identified risks can be mitigated in order to avoid potential losses. They claim that although risk aversion is integral to the conceptualisation and understanding of PRA, formulating country strategies should also form part of the conceptual and operational foundations (2010:60-61). Therefore, it is not only within the study and practice of PRA to conceptualise and measure specific risks, but these risks should also be approached and mitigated through risk models and strategies in order to protect investments.

Bischoff and Lambrechts further explain that in the era of increased globalisation and regionalism, it must be questioned whether or not the analysis of only political, economic and social risks attributed to the host country provide an accurate analysis of the risks faced by international organisations. They suggest that it is imperative for political risk to be assessed on a regional scale and include the regional unit as a primary component of the analysis.

[9] PRA is categorised into two categories, micro and macro risk factors. Macro risks are considered to be environmental events which affect all foreign firms in a country, without regard for organisational characteristics. Examples of this would be corruption within the government, regime in/stability or poverty. On the other hand, micro risks are considered to be more industry, firm and even project specific. Examples of micro risk factors are energy vulnerability, restriction of flow on funds or class stratification (Allon *et. al.*, 2006:626 & 628). Political risk models can either place a greater focus on macro or micro risks, depending on the needs of the client, which will thus establish successful forecasts and approach strategies. With the separation between macro and micro risk factors, the specification of these risks allows for risk analysts to operationalise with more precision. By doing so, high, medium and low impact events can be better approached and observed.

Furthermore, they make mention of the increasing importance of the host region and the traditional understanding of the host nation as suggested by previous understandings of PRA (2010:61). Subsequently, as a result of the vast diversification experienced in international business, the globalisation of markets and the growth of international portfolio investment have changed the conventional way in which business is conducted, i.e. conducting a risk assessment is imperative for a successful business venture. Because the realms of business and politics are so intrinsically linked, PRA as a discipline must incorporate these changes in order to execute successful business operations (2010:58).

PRA is considered as an over-arching concept of risk management and approaches. These more specialised conceptualisations, such as Regional Risk[10], offer greater accuracy when approaching risk. PRA houses the understandings of risk from the social, economic and political spheres of society whereby models are generated to specifically consider the respective risks from these factors. Other more centralised concepts than these arenas should be considered too. Alongside Country Risk analysis, some of these specialised subcategories are; Transfer Risk[11], Political-Security Risk[12] and Regional Risk. These specialised branches of PRA which are able to facilitate a more accurate analysis of current circumstances as well as potential events, allowing for greater approaches towards high impact, low probability events.

It is important to acknowledge how the differences in the conceptualisation and opperationalisation of these kinds of risks results in a variety of models, techniques, strategies and approaches. With the conceptual developments that have taken place in PRA and its

[10] Regional Risk analysis is defined by Bischoff & Lambrechts (2010:60) to be the consideration of the risks not only in the specific country in consideration but the region as a whole. Due to the fact that globalisation has changed the nature of business operations, it is stated that considering the dynamics of a region has become imperative for a successful business venture. Here it can be said that what may unfold in the region in question may have significant impacts on business ventures, profitability and safety and so therefore need to be stringently accounted for.

[11] Transfer Risk is considered to be the risk which refers to the sub-dimensions such as regulatory quality, monetary policies in place and the investment and financial freedoms of the investor in the host country. More importantly, Transfer Risk refers to the conversion dynamics and laws from one currency into the other. This too encompasses the risk that after a financial loan, the borrower would not be able to convert local currency into foreign exchange and will therefore not be able to make debt-service repayments (Sottilotta, 2017:63 & OECD, 2017).

[12] Political-Security Risk is considered as the vulnerabilities which flow from political risks and policy responses to certain threats, in a specific country. Amongst these kind of risks include political action such as unpopular legislation leading to widespread unrest, labour actions and terrorism. It can be said that Political-Security Risk is a specialised branch of PRA (as those mentioned above can too be considered to be) and encompasses a number of elements of political risk in order to provide a more accurate analysis (Fouché 2003:18 in Lambrechts et al., 2011:111).

specialised sub-categories, it has allowed for risk analysts to successfully approach and mitigate events specific to the nature of the business or dynamics of the host country. Risk models are therefore more refined and the approach strategies for higher risk occurrences are more precise. It is important to acknowledge these conceptual developments in order to assess the possibilities of high impact, low probability events with greater knowledge and accuracy and whether or not an approach is possible. By understanding the differing risks factors and variables and how these can be identified and addressed, high impact, low probability events should theoretically be significantly minimised.

By considering the abovementioned conceptualisation phases of PRA, it is imperative to acknowledge that what was previously economic centric has evolved to accommodate political and social trajectories. PRA was once considered a loosely defined concept and now encompasses more specialised definitions and approaches in order to ensure successful risk assessment and management. Through this evolution of PRA, concepts such as political instability, political uncertainty as well as forecasting versus predicting have become synonymous with the conceptualisation and opperationalisation in PRA. Political instability and uncertainty often lend themselves to hostility within the host country, as citizen dissatisfaction, rule of law and poor governance are increased. This increases the risk of investing and should be acknowledged as a possibility through risk assessments. Furthermore, because of the proposed unpredictability of a Black Swan, the concepts of forecasting versus prediction will are analysed in this study. By looking at the limitations of these concepts, the possibility of approaching Black Swan events will be investigated.

2.2.2. Political Instability and Political Uncertainty in Political Risk Analysis

Political instability and political uncertainty in PRA are significantly interlinked and form the conceptual foundation of how risk analysts develop their approach strategies. Political instability has been closely linked to the risk ratings given by risk analysts when considering a host country and so therefore should be acknowledged as a primary concept. It again should be mentioned that the way in which political instability and political uncertainty are conceptualised determines how they are operationalised though risk models and how high impact, low probability events may be approached.

Citron and Nickelsburg (1986:385) consider political instability to be a synchronised, non-diversifiable or unsystematic type of risk in that it is specific to the host country and is the type of uncertainty the investor should inevitably prepare for. This risk is inherent in the market

economy or environment in which investors finds themselves and is thus an important consideration in risk management. The authors further mention that non-diversifiable risk can also be defined as the political volatility or instability experienced in a specific country. Zonis *et.al*. (2011:1) mention that political stability is formed by the satisfaction of the people. Therefore, political instability or non-diversifiable risk is measured by the political and social dynamics of a country or region. Examples of this are strikes, boycotts or any other form on anti-government action as a result of corruption, unfulfilled promises and the general discontent of the citizenry. However, Citron and Nickelsburg further consider that non-diversifiable risk is essentially the potential volatility of a set country and therefore is considered as a risk factor which is measurable. They mention that, as a result of this, political instability refers to the temperament or behaviour of governmental actors or members of society in coordination with the influxes this may have on stocks and investments. This is what makes non-diversifiable risks measurable and approachable in times of increased uncertainty (2011:387).

Power (2004:22) considers political instability and political uncertainty as mutually unexclusive from one another and should both be considered by risk analysts in their investigations and findings. He states that political instability, as a prominent risk factor in PRA, results in the political uncertainty of the environment in which the MNE finds itself. It can therefore be assumed that political instability is considered as a result of political uncertainty. Power additionally mentions that political uncertainty should be noted in risk management and by MNE's however, it cannot be approached. He puts forward that there is an element within PRA that cannot be identified and can only be managed once the instability arises. This suggests that there are certain events in risk which cannot be forecast and that these risks carry a significant element of surprise which can only be managed and not avoided. In agreement, Sottilotta (2017:7) mentions that there is a causal relationship between political uncertainty and political instability which results in radical change in the host country. She further mentions that political instability can be considered as a form of political uncertainty. However, she opposes Powers claim by saying that political instability can be timely measured and approached in PRA.

Although, political instability and uncertainty have been equated with the socio-political and economic factors of a host country, Aharoni (1966:99) claims that risk is not necessarily the results of an impact from a specific event. He mentions that risk increases with the amounting ignorance and uncertainty analysts may be privy towards in their assessments. However, Knight (1971:223) has a more quantitative conceptualisation and opperationalisation of

uncertainty and puts forward that risk and uncertainty depend on whether or not probabilities can be associated with the outcomes. The more risk analysts can match probabilities with outcomes, the more political uncertainty and political instability can be minimised. He continues to say that when analysts evaluate potential risks, they already have significant knowledge of a variety of possible outcomes which may be associated with that specific event. This is either formed as a result of probability statements and other calculation formats or from past experience. This will be further elaborated on in chapter three. It is here that Knight considers how it may be possible to approach uncertainty and instability with a compelling amount of precision if risk analysts examine past experiences and probability equations correctly.

In contrast to the above, Kobrin states that uncertainty is subjective and that knowledge of the possible outcomes and objective probabilities exists. Furthermore, he mentions that uncertainty is subjective as it is distorted by past experiences, the cognitive processes of analysts and the nature of the organisation (1979:71). He goes on to critique Knight's argument in saying that uncertainty in risk remains unapproachable and a factor that MNE's should accept as an inevitable part of PRA. Kobrin continues by saying that a MNE can reduce this risk by curtailing subjective uncertainty. He acknowledges though, that the existing literature is problematic in allowing a conversion of uncertainty into measurable and approachable risk. This is because opinions about future events and the political and economic environment will always be inherently subjective as well as observer-dependent (1979:75). Similarly Venter (1999:73) notes that events of this nature are discontinuous and that they are not predictable on the basis of inductively derived generalisations or probability statements. He continues to say that a descriptive analysis of political and social trends of a particular state can provide risk analysts and decision-makers with early warning signs of possible high or low impact and probability of events. PRA is therefore a process of practical logic, yielding general statements that can be applied to the future (1999:74).

Continuing with how risk is approached, Simpson (2015) introduces a new idea when considering the measurement of uncertainty in PRA. He puts forward that many academics have used the measurement of volatility (or non-diversifiable risk) as proxy to risk. This demonstrates how much a given number/probability can vary over a period of time. It therefore suggests that the wider the range of these possibilities, the greater the increase in risk. The escalation in these probabilities will in turn increase uncertainty, exposing MNE's to a wider range of non-diversifiable risks which have not yet been effectively considered. This allows

for the development of unexpected events. However, he mentions that individual investors as well as MNE's choose to measure volatility instead of risk as it seemingly exposes the investor to a wider range of possibilities. By doing so, this allows for investors to identify and approach high impact, low probability events with increased accuracy.

By considering the literature presented on political instability and uncertainty, it is determined that uncertainty is a fundamental result of political instability, volatility or non-diversifiable risk. However, some authors mention that uncertainty cannot be measured but should be considered a prerequisite when investing. Others state that by considering past experiences and a range of probability statements, both political instability and the political uncertainty can be successfully accounted for, although, within this lies the issue of forecasting versus predicting in PRA. Political uncertainty is inevitable in PRA, and the way in which this is identified will result in how approaches may be increasingly successful. The credibility of the risk assessment thereof is determined by whether or not risk analysts are able to present their findings through methods and strategies that result in accuracy and reliability or not. This introduces the discussion on forecasting versus predicting in PRA which will be presented in the following section.

2.2.3. Forecasting Versus Predicting in Political Risk Analysis

In PRA the difference between forecasting and predicting is what makes risk analysis successful, reliable and credible or not. Futuristic thinking and planning have in the past been stringently avoided by political scientists and risk analysts due to high levels of uncertainty and scepticism it results in. Crick (2015:347) mentions that sociologists and economists have used futuristic thinking, planning and management as part of their daily tasks however, political scientists have neglected this strategy. Similar to this, Schneider (2014:213) mentions that the reason political scientists are disinclined to consider methods of futuristic thinking and forecasting is due to the high level of unsuccessful statistics that have resulted. Schneider further mentions that risk analysts and political scientists prefer explaining rather than predicting and that forecasting is considered as a naïve approach to potential events (2014:214).

Sottilotta (2017:39) considers forecasting to be based on probabilistic statements, which is made on a relatively high confidence level about the future, whereas a prediction is a non-probabilistic statement that shows where the social, political and economic trajectories are headed. However, a prediction suggests that there is an appearance of precision but previous use of this shows that it has resulted in poor execution and therefore gives the investor no

reason to trust the numbers presented. In comparison to this, a forecast considers the probabilities of possibilities and as a result, makes mention of the many possible differing outcomes that could simultaneously take place over an extended period of time and within a specific area (2017:40).

With knowing the fundamental characteristics of PRA, forecasting and prediction rely heavily on causal relationships between the investor and a given environment. This will have certain structural features which will hinder or favour the activities of the investor. Furthermore, when establishing relevant risk factors and models upon which they can be analysed and measured, political risk does not aim to predict specific events. It is the job of a political risk analyst to forecast the likelihood of what may happen and assess the impact thereof. This is because forecasts are provisional and fallible and provide a probabilistic view of the future, along with the necessary tools to prepare for differing outcomes. Therefore it can be determined that a prediction is much easier to discard than a forecast (Sottilotta, 2017:40). Goerg (2013:1) acknowledges that there are specific components and methods which typically improve the accuracy of forecastability. These components are often considered and compiled into probability statements however, Clements and Hendry state that risk analysts and politicians can consider regularities and irregularities about the future in order to make an accurate forecast. By identifying key factors from past experiences alongside the current occurrences can assist forecasting. However, by relying too much on past experiences can warp the perspective needed to correctly identify current events. Taleb mentions that this is how Black Swans are established (2004:12).

Considering the above, Taleb (2007:149-150) mentions in his findings that one of the primary reasons why forecasts and similarly predictions fail more often than not, is that risk analysts and decision-makers consider irrelevant and outdated information. He puts forward that predictors and forecasters are only good at predicting the ordinary and fail to consider the irregularities. In addition to this, he indicates that, although analysts are informed about forthcoming contracts, planned expenditures and activities relevant to the company, this should substantially propel accurate forecasts. However, because forecasters do not look past the data at hand, is why risk analysts fail to approach high impact, low probability events.

Additionally, Sottilotta (2017) considers that it is within the very nature of political risk that events arise from future interactions between the MNE's and the given environment in which they find themselves. She furthermore claims that, when considering the host environment of

the investment, forecasting of potential risks or events is dependent on the pre-existing social, political and economic structures and the constraints these structures may contain them. Despite the fact that there is a causal relationship between the choices and actions of the investor, the structures within the host environment constitute a large determining factor as to what is possible to forecast or not, as this acts as a factor of limitation (2017:41). Although forecasting political events and the effects of risks in a host country are not without flaws or inaccuracies, after considering the presented literature on forecasting and predicting it can be determined that by analysing the correct information it is possible to gage potential future events.

2.2.4. The Black Swan Theory and Political Risk Analysis

The Black Swan theory was coined and developed by Nassim Nicholas Taleb and was based on the unexpected discovery of the black swan bird species in Australia during the 17th century. This theory speaks about social, political and economic events which take place and have the potential for high impact, resulting in significant distress and disorder. Taleb mentions that these events occur as a result of how risk analysts and decision-makers learn. Therefore information that is assessed with too much precision, neglects the examination of general indicators, facts and occurrences resulting in unanticipated events and missed approaches (Taleb, 2007:xxi).

The three primary characteristics comprising a Black Swan event are, firstly it is an outlier in its very nature in that it lies outside the realm of regular expectations. By this, Taleb puts forward that it cannot be acknowledged or approached as nothing in the past can convincingly point to its possibility. He mentions that one is inherently unable to predict these outliers, thus implying the inability to predict the course of the future. Second, he states that events of this nature will have significant effects and will often modify the trajectory of the host country. This could result in increased safety and security measures or critical political, social and economic instability. The third and final characteristic of a Black Swan event is that in spite of its outlier status, it is within human nature to contrive explanations and reasoning for the event after its occurrence. By doing so, this typically makes the event explainable, approachable and predictable. Taleb notes this as Narrative Fallacy, and is often a false perspective used when attempting to approach high impact, low probability events (2007:xvii-xviii).

Taleb believes that the combination of a large impact, low predictability characteristics within a particular scenario is essentially what makes a Black Swan event too complicated to account

for, approach and mitigate. In addition to this, he mentions that one of the key reasons a Black Swan event is unpredictable is that most risk analysts and prominent decision-makers in investing will provide a working definition of 'risk' that excludes the possibility of a Black Swan. With the failure to consider a conceptualisation of PRA that combines the intelligence of events of this nature, methods surrounding its opperationalisation will seemingly fail. Furthermore, Taleb continues to build his theory by saying that sociologists and economists have always confidently produced 30 year predictions surrounding the price of oil and social security deficits however, their errors have been significant. He describes that although the magnitude of these forecast errors should be unquestionably accounted for, it is more disconcerting that risk analysts and decision-makers are unaware of these large miscalculations. He considers this to be a dire form of aggressive ignorance that seemingly infiltrates into the cognitive processes and strategy developments of risk analysts, which ultimately triggers a Black Swan event (2007: xx). However, Jervis (2010:481) mentions that the characteristics which constitute a Black Swan event, as proposed by Taleb, are too vague. He expands on this by saying that people have different goals and expectations in their business ventures, so whilst an event of this nature may affect some, it is not to say that it will affect all. By this, the nature of the event, the perspective analysed from as well as the environment should be considered before classifying it as a Black Swan event.

Taleb makes mention that the way in which a Black Swan event is established is through the learning of its causal factors. He states that the methodology employed by forecasting considers the 'normal' and expected outcomes with too much certainty, whereas the Black Swan in its nature is the opposite of such. This he calls the Platonic mind-set. He explains this concept as the gap between what risk analysts and decision-makers think they know versus what they actually know. It is therefore within this widening gap that the Black Swan is produced (2007:xxv). Taleb then claims that the world is intrinsically dominated by the extreme, the unknown and the improbable. However there is too much consideration focused on the known and the repeated and therefore, despite the increase in accessible knowledge, the future will become less predictable (2007:xxviii).

Taleb draws on the limitations of the human mind, stating that risk analysts and decision-makers have a warped understanding of world occurrences and therefore do not realise how complicated matters may be. Secondly, the human mind provides a retrospective distortion in that an assessment of the matters after the fact takes place. This is where a large consideration on the historical context is made giving the illusion that the matter seems clearer. Lastly, he

mentions that the over-evaluation of factual information and those who have the authority to analyse and plan around these results has a significant impact on how the Black Swan develops and the kind of effects it may have (2007:8).

Taleb then considers the models and strategies used by risk analysts stating that the same importance is assigned to the same set of circumstances. When contemplating these models, risk analysts compartmentalise factors and outcomes to such a point where it becomes definitive and the malleability of these boundaries is ignored. With this intensive categorisation, he indicates that risk analysts reduce the significance of these potential events and therefore automatically overlook the indicators pointing to a Black Swan (2007:15-16). However, it is argued that other academics may consider this to be a failed method of approach in need of revision and optimisation. But Taleb claims that it is those involved in risk management and decision-making who become the creators of Black Swan events (2007:18). Lee, Preston and Green (2012:vii) claim that contingency plans developed by risk analysts often assumes the *status quo ante* (or the previously existing state of affairs) after a crisis. Poor evaluation and foresight are what provides the onset of high impact, low probability events. However, Taleb mentions that the reason why analysts in PRA are unable to approach Black Swans is due to a psychological and biological blindness of the mind, thus the problem does not lie in the nature of these events but rather in the way in which they are perceived and accounted for.

In contrast to the blindness proposed by Taleb, Morris (2017) from a geopolitical intelligence platform Stratfor, argues that the conditions for a Black Swan event taking place have more than likely already been set. This again opposes Taleb's theory as he claims that events such as these are formed from slow-motion triggers. Morris gives the example of Martin Luther nailing the petition on the door of a Catholic Church in Wittenberg, Germany[13] in 1517. This may have seemed as though this occurrence bore the characteristics of a Black Swan event, that the Protestant movement was inevitable. He said that, because the current social and

[13] Martin Luther instigated the Protestant Reformation in the 16th century, challenging the religious, political, intellectual and cultural components that formed the axis of the Catholic Church. This reformation would result in the reorganisation of the beliefs, structures and politics in Europe that would continue into the modern era. Luther argued for a religious and political redistribution of power (as church and state were not separated) which resulted in the triggering of wars, persecutions and a counter-reformation from the Catholic Church (The Reformation, 2018).

political circumstances required a largescale transformation, someone else, if not Martin Luther, would have pioneered this movement.

Additionally, Morris (2017) puts forward in a second writing on the establishment of Black Swan events, that forecasters, when they have accurately considered the historical and sociological contexts of the time, would have been able to distinctly see that conditions for such a movement where inevitable. One of the first tell-tail signs of this, is that during the 16th century it was not uncommon for people to nail their plights to the doors of churches. This would have received some sort of acknowledgement and perhaps action, but due to the severity of Luther's claims, it resulted in a more momentous series of events. Morris goes on to explain that although globalisation has established interconnectivity and accessible information from open-sourced data bases, forecasters should not only consider historical evidence to build a case in approaching a Black Swan. Analysis should therefore consider both similarities and differences. By having a certain understanding of the necessary actors and factors regarding sensitive circumstances, he proclaims that the inevitability of these events can result in successful identification and approach (2017).

Furthermore, Morris confronts the claim that risk analysts and decision-makers have the ability to encourage the formation of a Black Swan event. He does this by saying that because the event itself was bound to take place, no individual decision or level of ignorance would derail the formation of the Black Swan. This suggests that because it occurs at the hands of a perpetrator, a Black Swan event can be successfully approached. Morris critiques the claims of Taleb by mentioning that Black Swans are made and can be accurately forecast when considering the historical, political, social and economic conditions of the time. He states that Black Swan events are not "born", in that their occurrence cannot take place so randomly, but rather they are created and therefore can be approached by considering the indicators of their creation (2017).

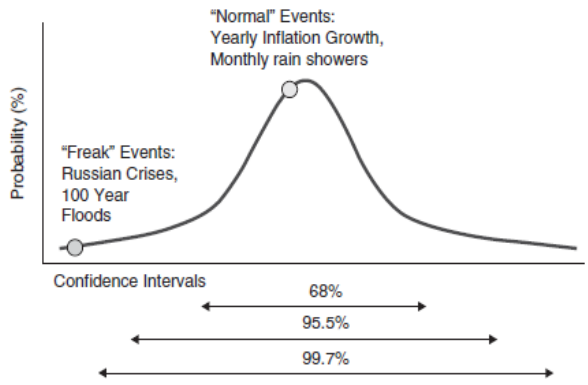
Bremmer and Keat (2009:2) present an alternative to the Black Swan known as the Fat Tail. This they define as the bulges which are found at the tail end of distribution curves that measure risk and their impact. This is the representation of risk that a particular event may occur, appearing to be catastrophic, unlikely to happen and difficult to predict. They claim that events such as these are ignored more often than not. Additionally, they mention that there is a variety of different methods in which these events can be successfully approached, but that there is no singular formula for understanding and managing political risk and the effects thereof. They

consider the way in which Fat Tail events are managed, approached and mitigated is country, region and even industry specific. By doing so, it becomes apparent that Fat Tail events can be approached regardless of the minor conceptual differences to that of the Black Swan. Bremmer and Keat provide the example of Brazil whereby monitoring and evaluating the behaviour of political parties is a crucial element for an accurate forecast of policy outcomes and potential risks. Whereas in China the consideration and analysis of personal power dynamics within the Communist Party and elite factions is a crucial element to be considered in forecasting. However, although these tools are important and could be used when analysing other countries, this approach is country or industry specific. Thus the method will not have the same result in a forecast done on Saudi Arabia, whereby the politics and the effects thereof are a family matter and should be analysed from a different perspective.

When considering risks and their potential impacts, Bremmer and Keat draw stark correlations between a Fat Tail event and a Black Swan. Here they state that when considering high impact events, it is assumed that political and social behaviours can be predicted with the same methods and strategies used to forecast financial irregularities and disturbances. They mention that these assumptions are often misleading as a majority of the risks which characterise the world today do not follow a normal distribution, but one that is significantly skewed. By this, they put forward the view that unexpected events happen more frequently than the statistical models would indicate. With this conceptualisation, Bremmer and Keat classify Fat Tail and Black Swans as one and the same. However, they believe that Fat Tails can be successfully approached, whereas Taleb claims that a Black Swan cannot. Below is a visual representation of a Fat Tail event to provide the reader with a comparative understanding between it and the Black Swan.

Figure 2: A Visual Representation of a Fat Tail Event

Source: Bremmer, I & Keat, P. 2009:19.



Analysing the graph above, Bremmer and Keat (2009:19) represent the Fat Tail through a probability distribution. One can see that the ends of the curve are thin which signifies that events in those ranges are very unlikely to occur. These events are labelled as 'freak events' due to their unlikeliness in nature and resulting devastation (the Bolshevik Revolution in 1917[14] and the German invasion of the Soviet Union in 1941[15] are examples of this). The probability (as represented on the y-axis on the graph) indicates the likelihood of events taking place. The higher the probability, the more frequent and common these events are. On the x-axis, the confidence intervals of these events are represented. A confidence interval is the probability that a value will fall between an upper and lower bound of probability distribution. The higher the interval is, the more impact there will be on stocks and profitability. The confidence interval is thus used as a tool to measure uncertainty, whereby the higher the probability associated, the more certainty there is (Bedford & Cooke, 2003:4). Therefore, it can be said that Fat Tail events, which have a low probability but a high confidence interval, will seemingly result in large scale devastations.

Although Bremmer and Keat make the correlation between Black Swan and Fat Tail events, they claim that Taleb's theory and approach have significant limitations. They claim that organisations and MNE's are more likely to experience the impact of frequent minor disturbances, such as corruption and strikes which have similar, if not larger impacts than a Black Swan event. Furthermore, they state that these risks can be predicted and their gradual effects can be measured over a period of time. In addition to this, they state that unlike financial, economic and environmental risks, political risks are generated by individuals. Individuals have specific, identifiable sets of motivations and limitations which therefore makes them predictable and not a Black Swan. They claim that it is possible to map these incentives and constraints, making it considerably easier to forecast downside risks (2009:20-21).

[14] The Bolshevik Revolution of 1917 signified the dismantling of Tsarist autocracy in Russia which then led to the formation and rise of the Soviet Union. Citizen dissatisfaction then lead to the surprising fall of Tsar Nicholas Romanov II, and the old regime was replaced with a provisional government, with the aim to consider the plights of the Russian people more closely (The Russian Revolution, 2018). This can be considered as an example of one of the primary Fat Tail or Black Swan events to take place in history.

[15] The German invasion of the Soviet Union in 1941 (known as Operation Barbarossa), was one of the largest invasions in history. This invasion is considered to be one of the major turning points in the war as Adolf Hitler (leader of Germany) was determined to enslave the Slavic nation and exterminate the Jewish population. This therefore ignited what would later become known as the Holocaust, where more than six million Jews were killed (Operation Barbarossa, 2018). The invasion of the Soviet Union is considered by Bremmer and Keat as a Fat Tail event due to the magnitude of the invasion as well as the fact that this led to one of the largest genocides in history (Bremmer & Keat, 2009:12-13).

A determining factor for Fat Tail and Black Swan occurrences are the dynamics within the host country. Taleb (2007:33-34) mentions that the world can be divided into two categories, that being Mediocristan and Extremistan. He defines Mediocristan to be a utopian reality whereby risk analysts hope that uncertainties and irregularities can be easily identified and defined. This is where the bulk of the data for forecasting and approach strategies is gathered. However, he claims that the world operates primarily out of the Extremistan division and that all social, political and economic matters reside in this category. In Extremistan, he indicates that inequalities result in single observations impacting the aggregate by a disproportionate amount, therefore derailing the approach established by analysts, but often without their knowledge. Finding an average when considering events from Extremistan becomes challenging as Black Swan events depend much on a single observation rather than that of many. It is here where Taleb states that one measure has the capability to influence the trajectory, and that the data considered in this should never be accepted as final and substantial. The frameworks considered for events of Extremistan is where most of the Black Swan development takes place, but still should only be considered as an approximate.

Similarly to this, Blyth (2010:452) acknowledges Taleb's claims of Mediocristan and Extremistan and states that when the world is divided into these two categories, it allows for risk analysts to consider risk in one domain and uncertainty in another. This forms the bounds for his development of the Four Quadrants of Talebism (see table 1). Blyth discloses that risk occurs where there are visible outcome generators, resulting in thin tails and simple payoffs. This suggests that risk analysts are able to sample past data which converges into an accurate understanding of the events in question. Uncertainty, he mentions, occurs when there are non-linear or invisible outcome generators at play. In is here where non-scalable risks, Fat Tails and Black Swans are developed. The author notes that Blyth agrees with Taleb in that he mentions that the world operates out of Extremistan, however the methods and strategies in PRA are only able to account for Mediocristan.

Blyth mentions that although there is an increased interconnectivity between countries which have facilitated open-sourced data and intelligence, the best tools used to understand this may be the worst instruments in approaching these events (2010:453). He aims to remedy this information engineering problem, whereby too much historical consideration is undertaken without the ability to apply into correctly into the future, through a series of probabilities and equations. He mentions that by considering a statistical approach towards historical events in establishing how this may been used as an approach is seemingly what will allow for the

successful identification of a Black Swan. Finally, he considers Narrative Fallacy not as a consequence of a Black Swan event, but that it should not be considered a fallacy as such. Here he claims that this narrative is what has and will save analysts and those involved from potential Black Swans (2010:462).

However, Taleb interestingly notes that Extremistan does not always suggest a Black Swan event but that some events are indeed rare and consequential but are still somewhat predictable. Here, he names these as 'near' Black Swan events or 'grey' swans. These grey swans are predictable when risk analysts consider factual randomness. He explains factual randomness to be when analysts contemplate a series of facts and figures but still acknowledge that there is an element of randomness to the event. The potential consequences become increasingly clear and therefore the impact of the surprise is significantly reduced. Taleb notes the stock market crash of 1987 as an example by saying that if economists know that there is a possibility of such an event taking place again, it cannot be considered as a Black Swan. Similarly, if a world war as great as World War II has happened once, a zero probability cannot be given when contemplating the risk of another, within relative bounds and reason (2007:271-272). Taleb then concludes on the grey swan by saying that those involved in the specific area of impact in which the event takes place, should essentially know about its development and be forthcoming with an approach.

In contrast to this, Blyth (2010:462) investigates Taleb's claim on grey swans by stating that if risk analysts are disinclined to see this information in front of them due to a lack of adequate data, then grey swans are centrally equivalent to a Black Swan. He mentions that if grey swans are predictable and forecastable, then so should Black Swans. Taleb argues that those involved in the domain of the event have seen it but everyone else is blind to it, but Blyth challenges this as a fundamental contradiction of the characteristics of the Black Swan event. According to Taleb, a Black Swan should occur as a surprise to all, not only to those who it does not affect. However, Blyth claims that the reality of a Black Swan event depends on the perspective from which it is considered.

Likewise, Lindaas and Pettersen (2016:1232) propose that forecasting is not only possible but useful when contemplating a Black Swan world. They make a significant claim in saying that no events are so irrevocably unpredictable that they become a Black Swan. In their writings, they contest the fact that these swans are 'black'. The contest that Black Swans are surprising and have disastrous impacts by claiming that there are definite methods which allow for their

'de-blackening'. Here they consider the outlier characteristic of the event and assert that by widening the domain of where Black Swan events occur to include *unknown known* and *unknown unknown* events, that this will allow for an easier identification and successful approach (2016:1233). Moreover, they inspect the conceptualisation of the Black Swans unknown unknown trait by saying that if this means that there are no previous experiences pointing to its occurrence, there cannot be expectations surrounding the event. When this is taken into consideration, giving Black Swan events *unknown unknown* status, thus defies the understanding of what it means to be an outlier.

In addition to this, Lindaas and Pettersen mention that a Black Swan is only a Black Swan in the eyes of the beholder. An example given in reference to this is the 9/11 terrorist attack. Here they assert that although the event can be considered a Black Swan for the victims, it must be noted that it was not a Black Swan for the attackers. By this, they consider the perspectivism associated with these events and indicate that the event itself should be considered in relation to whom and when. Furthermore, they consider Aven's conceptualisation of a Black Swan in that these events are directly related to ones beliefs and knowledge, thus suggesting the number of people experiencing the event will differ significantly. He goes on to say that sometimes an event is a Black Swan to the scientific community, however it bears no surprise or impact on the general global community. Moreover, they mention that through increased mechanisms of communication of the differing knowledge and beliefs, this will reduce the likelihood of a Black Swan event substantially. By making knowledge available to those who do not have access to intelligence, allows for the rarity of a Black Swan to occur (2016:1235-1236).

Cornell (2012:1824) introduces the concept of a 'Perfect Storm' when contemplating the nature of high impact, low probability events. She mentions that perfect storms are different to a Black Swan in that it involves aleatory uncertainties, or randomness, whereas a Black Swan is made up of epistemic uncertainty (a lack of fundamental knowledge). Perfect storms should be noted as rare but known events that can be successfully approached through a range of both quantitative and qualitative methods. Although she acknowledges these conceptual differences, she claims that most scenarios are made up of a combination of these characteristics. Furthermore, Cornell (2012) puts forward that the occurrence of true perfect storms and Black Swans are extreme and that the rarity used to describe these events is an excuse for lack of proactive risk management. She mentions that when decision-makers approach scenarios, different types of information should be considered in order for models to remain successful. These strategies require long term observation and careful evaluation of their marginal and

conditional probabilities (2012:1827). By applying this method, models become increasingly successful and the unforseeability of the scenario is reduced. She concludes by saying that whether the event is considered as a perfect storm or a Black Swan, this cannot be an excuse in PRA to wait until a disaster happens to take safety measures and issue regulations against a predictable situation (2012:1831).

When observing the approach to events, Aven (2013:45) considers that when risk analysts are considering a fair number of 'swans' (meaning the everyday, normal events that take place), this will more often than not point forecasters into the direction of a Black Swan. In his writings, Aven considers Lindley's academic review (2008:42) which claims that the calculus of probability is an adequate measure for all kinds of uncertainty and randomness and therefore can be successfully used when approaching a Black Swan event. Additionally, Aven identifies another flaw in Taleb's theory as he assumes that risk analysts consider all swans to be white when analysing risk. This means that PRA is comprised of only looking at what is normal and expected, without considering events of greater significance and impact. Furthermore, Lindley mentions that the idea and definition of a Black Swan should be considered as a non-issue. This is due to the fact that when considering risk, uncertainty and safety, risk analysts are able to essentially express the problems of unexpected events in relation to risk management in more precise terms and adjusted to the context at hand.

However, Aven responds to Lindley's claim by saying that the idea of the Black Swan cannot be considered as a non-issue as the concept is widely known in the sphere of risk and safety and therefore needs to be contemplated in PRA. However, he mentions that two out of the three defining characteristics of the Black Swan event needs to be satisfied in order for it to be considered as such. These characteristics are that (1) it is a rare event which (2) which results in extreme consequences. Both need to be present when attempting to classify the event as a Black Swan. He states that, although events can still have devastating impacts, the surprising nature is to be questioned. He gives the example of the Fukishima Daiichi nuclear disaster of 2011 and says that although the event did result in destruction, the scientific community had access to the knowledge which, if utilised correctly, would have reduced the impacts significantly. By this, Aven takes issue with the fact that the risks presented were accepted as sufficient which therefore led to it being classified as a Black Swan. He claims that Black Swan events take place not as a result of knowledge availability and not being utilised effectively, but that nothing in one's knowledge can convincingly point to its possibility (2013:47-48). Similarly, Taleb mentions that some companies/states will benefit from shocks more so than

others. He puts forward that even though events resulting in devastation may take place, those who are resource rich and have the capacity to rebuild have established mechanisms which ensure benefit even in shock and chaos. He calls this '*antifragility'* as some are aware and prepared for the possibility of extreme events which allows them to profit even in disorder (Taleb, 2012:15).

Bremmer and Keat (2009:24) acknowledge that there are structural differences when contemplating political risks and uncertainties. When accounting for these risks, unlike operational, credit or market risks, these risks are often unsystematic and therefore more difficult to address through quantitative methods. Political actors aim to constantly adapt to overcome the risks through legal methods and measures of security by developing methods of antifragility. It is through this that they put forward that once a risk is recognised, the nature of the said risk drastically changes. One of these proposed methods is scenario building whereby a collaborative process is undertaken, focusing on unthinkable circumstances and creative solutions. This approach traditionally does not consider statistical and probabilistic measures, but places a greater focus on the social elements contributing to risk (2009:26).

An example of the utilisation of scenario building is when Pierre Wack, who led the first scenario planning group at the oil company, Shell Française, successfully argued that the existing planning system was flawed as it relied heavily on projections of past trends in oil production and consumption. In addition to this, he claimed that there needed to be a greater focus placed on Fat Tail or Black Swan events and that operations should be considered in accordance to their potential. These plans eventually allowed for Shell to approach the Oil Shock in 1973 with preparation and ease (Bremmer & Keat, 2009:27). More on these types of approach strategies will be discussed in the following chapter.

2.3. Conclusion

Looking at the presented literature on the conceptualisation of PRA, it can be determined how the primary conceptual developments have resulted in changes around the concepts of opperationalisation. This can be seen through the expansion of PRA into country risk, political-security risk, operational risk, transfer risk and regional risks. Risk analysts have acknowledged the importance of not only economic and financial risks but have also realised that political and social factors should be heavily considered in their investigations. With a greater understanding of the specific risks relevant to a host country, this has allowed for an increased protection of business ventures and profit returns. Furthermore, it is important to consider the boundaries

within PRA and how this relates to risk versus uncertainty. Here, the various academic work contemplated considered quantitative and qualitative methods, which was primarily comprised of statistical and probabilistic methods. This was found to be dominating idea when deliberating the differences between forecasting and predicting risks, and how these methods may affect the credibility and success of an approach in PRA.

The aim of this chapter was to understand the conceptual developments around PRA and how this has advanced to accommodate Black Swan theory. Although Taleb's claim that an event of such rarity and devastation results in the inability for risk managers to successfully approach this event, other authors disagreed. The literature presented how both quantitative and qualitative methods were used to consider the plausibility of approaching *unknown unknown* events. Similarly, many authors mention that depending on the observer's conceptualisation and perspective of risk and Black Swan events, with the utilisation of the relevant knowledge, events such as these can be approached and resolved. Although the limitations of approaching a Black Swan event has been widely recognised, authors speak on how Taleb's theory is unrealistic when considering risks. This will be discussed in the following chapter, by considering approaches presented as critiques and alternatives to Taleb's Black Swan theory.

CHAPTER THREE: CRTIQUES PRESENTED BY ALTERNATIVE – APPROACH MECHANISMS TO BLACK SWANS IN POLITICAL RISK ANALYSIS

3.1. Introduction

This chapter aims to consider the critiques of Black Swan theory put forward by other academics by presenting possible approach strategies to high impact, low probability risks. By doing so, alternative ways in which risk analysts are able to consider this kind of risk will demonstrate how high impact, low probability events can be foreseen and approached. Here the defining characteristic of Taleb's Black Swan, being its inherently unpredictable nature will be challenged. It must be mentioned that it is impossible to provide an exhaustive list of the possible approaches to high impact, low probability events and this chapter will therefore only consider those which the author deems as most valuable to the study. The authors mentioned are predominantly of the opinion that there cannot be an event so irrevocably rare and devastating to be considered as a Black Swan. Thus, what is presented in this chapter will either be determined as a critique of, an opposition to or an alternative to Taleb's Black Swan theory. These will demonstrate how extreme risks can be approached in PRA and will therefore clarify the obscurity surrounding Black Swan events. By considering approaches to these high impact, low probability risks will become more digestible and approachable through PRA. In doing so, the applicability of the Black Swan as a classification of events in PRA is questioned.

The emergence of high impact, low probability events have become increasingly prominent, shedding a new light on current understandings of risk and how this is operationalised. Examples of events that have led to this claim are the 9/11 terrorist attacks, the Macondo Oil Spill of 2010[16] and the Fukishima Nuclear disaster in Japan. Situations of this profiling have become frequent and have therefore resulted in questioning how risk is perceived and how disruptive events are approached (Lee, Preston & Green, 2012:vii).

Although there are surprising events which take place, the nature of risks today and the results thereof are 'slow-motion' in that they generate over a period of time. These slow-motion risks

[16] The Macondo Oil Spill took place on the 20 April 2010 in the Gulf of Mexico, whereby a British Petroleum (BP) oil rig caught fire. High pressure methane gas from the oil well expanded into the drilling riser where it ignited and exploded. This caused the entire platform to be engulfed, resulted in 29 casualties and a total discharge of 4.9 million barrels of oil into the Gulf. This is considered to be one of the largest industrial disasters to ever take place and is attributed to the gross negligence and reckless misconduct of BP. It has since then been declared that due to a series of small mistakes and judgements made by BP, that this is what resulted in the catastrophe (Meigs, 2016). When the correct methods and approach strategies are employed by PRA and executed by the MNE, this will significantly reduce the likelihood of these events or minimise their impact.

are more likely to have a greater severity and impact. Because of this characteristic, it allows for successful identification in PRA. This chapter will consider how this is done by presenting both quantitative and qualitative methods of identification employed in risk analysis, with a greater focus on the latter. Some of these strategies discussed use a combination of these methods in order to consider probability as well as circumstantial factors with the aim of refining how risk analysts approach scenarios. By doing so, the fundamental characteristics synonymous with a Black Swan event are critiqued and questioned.

3.2. The Complexities of Risk in Political Risk Analysis

Noting the conceptual developments that have taken place regarding risk and PRA (presented in chapter two), risk analysis has become increasingly robust. Governments and business had once been insufficiently prepared to confront high impact, low probability crises and failed to manage the economic, social and political consequences. Since then, risk analysts and decision-makers have had to develop and implement overarching strategies which consider the actors, factors, time of event and location in order to cultivate preparedness and response capacities. By doing so, this has established a range of frameworks for risk response. In the midst of developing risks and trends, host governments have the responsibility to approach and mitigate the effects these may have on a society. However, sector specific responses are also needed in order to ensure the safeguarding of MNE's and their profitability. Due to the nature of these events, approaches developed by risk analysts have had to become considerably specific in order to provide useful and relevant information to decision-makers (Lee, Preston & Green, 2012:vii). This is how high impact, low probability events can become manageable foreseeable and approachable in PRA.

Lee, Preston and Green (2012) mention that the approach strategies will remain largely the same for hurricanes, earthquakes or terrorist attacks such as 9/11. The similarities that can be found through these events allow risk analysts to approach them with relative simplicity (2012:xi). With the coherency presented by these strategies, and approaches towards high impact, low probability events, the element of surprise and the issue of Narrative Fallacy can become significantly reduced. It is important for political risk analysts to present strategies to governments and stakeholders that are robust and resilient in their approach towards high impact, low probability events. This chapter will consider how authors have met complexities and extreme risks by presenting critiques on the Black Swans unpredictability as well as possible alternatives. How these events have been considered and classified is evaluated.

3.3. Quantitative Approaches to Black Swans in Political Risk Analysis

Although the methodology used in this study is qualitative, there are various quantitative approaches to high impact, low probability risks which have been discovered. The techniques used are mathematical and statistical in nature and are largely formulated through probabilistic methods. These must be acknowledged so to determine whether or not high impact, low probability events can be approached from both a qualitative and a quantitative perspective.

3.3.1. Methods of Probability as an Approach

Probability statements form the foundation for a majority of the qualitative approaches to high impact, low probability events in PRA. Many academics as well as risk analysts believe that assessing the magnitude and consequences attached to specific risks can only be effectively done through methods of probability. This provides the understanding and measurement of the likelihood of something to happen which allows stakeholders and governments to develop specific approach mechanisms and mitigation strategies. Because risk is determined by statistics and probability, those who employ these methods believe that the element of surprise and the limitations of Narrative Fallacy are significantly reduced as barriers towards approaching risks and their impacts. These probabilistic methods in risk will be discussed further below.

Kaplan and Garrick (1980:11) mention that risk analysts and decision-makers are not able to avoid risk but are only able to choose between them. Alongside rational decision-making, they claim that a non-negotiable requirement of risk assessment is a quantitative strategy. This will provide a way of expressing risk so that it can be properly and specifically weighed, along with all the other related costs and benefits, in the response process. Kaplan and Garrick make use of a list of possible scenario outcomes. Each of these scenario outcomes consist of sub-categories which are representative of further possible results to the risk in question (1980:14-15). By narrowing down the possible outcomes, it is able to satisfy the uncertainty related to risk. These possible outcomes are arranged in order of increasing severity or damage and are assigned a probability weighting (1980:17). By consolidating probability with the likelihood of an outcome, they believe that political risk analysts are able to advise governments and stakeholders on the possibility of Black Swan events. This method can be considered as a critique to the Black Swans unpredictability as well as an alternative way in which to approach risk. Here, Kaplan and Garrick believe that risk analysts are able to identify and approach Black Swan events with a relative amount of certainty. However, a concern regarding any method

based on probability is that it is unable to identify data which cannot be numerically captured. It is often this data which contains the most valuable information regarding the intricacies leading to possible Black Swans. Therefore, methods of probability run the risk of failing to consider vital information that may defer high impact, low probability events in PRA.

Another probabilistic based approach is the Monte Carlos Simulation. This is an analysis done by determining the impact of identified risks by running various simulations in order to identify the range of possible outcomes for a number of scenarios. Random sampling is performed by using uncertain risk variable inputs (this is also known as 'what-if' scenarios) to generate the range of outcomes with a specific confidence measure for each of these. Although the simulation process is highly complex, the calculations are presented in simple graphs and tables. These results approximate the full range of possible outcomes and the likelihood of each, allowing for adequate approach and response strategies to be determined. When the Monte Carlos Simulation is applied to risk assessments, risks appear as a frequency distribution graph which is similar to the bell-curve, allowing for non-statisticians to use and understand it intuitively (Smith, 1994). Mun (2006:vii) considers risk and the outcomes thereof to be a 'black box' in that there is large-scale uncertainty with high impacts, which can only become 'transparent' (identifiable and approachable) through the application of the Monte Carlos Simulation to real life scenarios in order to model risk adequately. Because of this transparency provided by the Monte Carlos analysis, this opposes Taleb's proposed unpredictability of high impact, low probability events. Furthermore, this approach allows political risk analysts to understand the impact of specified risk and uncertainty within forecasting models and to respond accordingly. The simulations allow for the identification of multiple risk descriptors which provide the insight into how high impact, low probability events may be approached. The Monte Carlos Simulation can therefore be considered as an alternative method to approach extreme risks or high impact, low probability events in PRA.

Other classic probabilistic methods in risk analysis include, Bell Curves, Bayesian Model Averaging, Engineered Risk Management and Knowledge Probability. These methods will be further discussed below. Although Taleb steadily believes that not only is there no way to forecast or approach a Black Swan event, he especially makes mention of the fact that methods of probability are intrinsically flawed in doing so (2007:45). However, many risk analysts believe the Bell Curve has provided the platform to analyse and approach Fat Tail events as well as to understand potential outcomes (Jervis, 2010:482). Taleb therefore fails to acknowledge that these approaches allow for risk analysts and decision-makers to understand

different impulses and variables which are at work as precursors to high impact, low probability events. Jervis notes these to be 'triggers' to an even which is anticipated (2010:482). The presence of these impulses or triggers disqualifies the outlier status of a Black Swan event, therefore meaning that high impact, low probability events in PRA can be determined in advance. These triggers allow for political risk analysts and decision-makers to begin the forecasting process of high, medium or low impact events and are present in both quantitative and qualitative approaches.

A popular method used in approaches is the Bayesian Model Averaging. This method of approach is a weighted model output in accordance with the probabilities of being correctly based on contingency with the data presented. The model considers a variety of approaches but in accordance to with weighted accuracy. The data determines the nature and course of the model rather than the model determining the type of data used and analysed. In doing so, because it is the data collected which determines the model and approach, the prospect of an accurate forecast and approach increases. Bayesian Model Averaging is therefore the statistical data formulated by the likelihood of occurrence. This dynamic method of approach which combines the technique of forecasting reduces prediction errors in two main ways. Firstly, it considers a variety of variables and models which are usually more accurate than an individual component and secondly, analysts are significantly less likely to make dramatically incorrect forecasts. There is an analysis of the data which constantly influences variables, therefore adjusting how one should approach a circumstance. By doing so, it provides consistency and accuracy for political risk analysis and decision makers (Montgomery, Hollenbach & Ward, 2011:2-3).

Bayesian Model Averaging can be considered as an alternative method in how high impact, low probability events can be approached, as it identifies models and variables which increase its forecast accuracy. This method is founded on the analysis of a significant amount of data, however it is critiqued that probabilistic methods fail to consider human nature and practical knowledge. This is primary Black Swan territory as put forward by Taleb and so by neglecting this means that risk analysts will continue to fail in identifying and approaching these events.

Engineered Risk Management (ERM) is another probabilistic approach to events in PRA. This approach has been designed to provide an in-depth analysis of the system, its functions and the probabilities of its failures. By doing so, the model automatically evaluates itself, improving and increasing robustness. The structure of this model is based on trees and fault trees

(otherwise known as influence diagrams) and an assessment of the outcome of the different scenarios. This method is one which analyses the possible failures of the approach strategies in order for alternatives to be established. The data collected and analysed is comprised from existing information, surrogate data, test data and expert opinion. Due to the wide consideration of various types of data in this method, it is able to present prospective benefits, costs and risks. In addition to this, ERM considers human behaviour and errors as they are often basic causes of accidents which may provoke the further development of high impact, low probability events. These errors are rooted in management decisions such as the linking the physical performance of the models to the decisions executed, training practices and even incentives. By analysing these factors in the approach, risk analysts are able to provide a more complete assessment of the failure risks and how this may affect business trajectories (Cornell, 2012:1826-1827).

Furthermore, the ERM approach is conducted through the long-term observation of risk factors, variables and threats which provide an assessment of their marginal and conditional probabilities. This increases the chances of identifying possible risks which may lead to high impact, low probability events. Decision-makers and government stakeholders are thus able to implement systems of risk management strategies before the emergence of an event of this nature. Black Swans have been determined by Taleb as an *unknown unknown*, or *priori* (being deductive in nature) but as presented by ERM, signals or triggers emerge and can be observed and interpreted in order to permit a fast reaction. This can also be considered as an alternative method in which to approach high impact, low probability events. Taleb uses the 9/11 Terrorist attack as a prime example which encompasses all three of the major defining characteristics of a Black Swan event, but Cornell mentions that Phillip Zelikov the director of the 9/11 terrorist attack commission, called the misreading of the precursors to this event a 'failure of imagination'. Although the impacts of this attack were severe, there have been similar attacks which have involved the use of aeroplanes. Some of these examples will be mentioned later on in the study. Zelikov implies that because of this, events of a similar nature should have been analysed which could have resulted in the prevention of the 9/11 attacks. Cornell also says that PRA and management in cases such as this, involve updating the chances of failure, an accident, or an attack based on diverse observations. This reinforces protection and robustness of the system, meaning that the element of surprise and devastation is minimised should a high impact, low probability event occur (2010:1828). These observations and imaginative factors

add an element of knowledge to methods of probability and allow increased alertness, quick detection and early response to possible high impact, low probability events.

Taleb, however, claims that often these models presume a framework which does not consider outlier variables, resulting in a Gaussian Reality and therefore the variables and indicators considered are irrelevant (2010:234). However, Aven remedies this by saying that by adding a knowledge component to a probability statement increases forecast accuracy. The example used to express this method was a terrorist attack, when 21 year old Andres Breivik executed two 'lone-wolf'[17] terrorist attacks in Norway in July of 2011. Both of these attacks were strategically done outside of governmental offices in retaliation to the Norwegian government. Breivik moved from the site of one terrorist attack to the other disguised as a policeman, presenting falsified identification allowing him to act unsuspectingly. Breivik is a right-wing extremist who believed that the government of Norway was directly responsible for creating a cultural suicide as a result of increased feminist and democratic thought. Furthermore, he believed that Islam and Marxism were the enemies of the state and that the Norwegian government was not being active enough in preventing their development in the country. The attacks resulted in a number of deaths and casualties, making it the largest attack on the country's soil since World War 2 (Ranstorp, 2013:88).

Although situations like 'lone-wolf' terrorism, conditions cannot be explicitly repeated, risk analysts are able to use a knowledge based probabilistic approach. This knowledge probability is subjective and judgemental and expresses the uncertainty and degree of belief as to whether or not an occurrence of this type will take place. Here a specific group of people will assign a value according to how likely or unlikely the event will be. It will then be possible to identify events that have a higher impact and lower probability. With the example given on the terrorist attacks, the relevant police security services could have based their judgements on many assumptions concerning the capabilities and motivations of persons to perform the attack. By doing so, police and security personnel would have been better prepared for an event such as this. The difference between classic probabilistic risk strategies and this one is that the knowledge component cannot be assigned a numerical value. This method of approach

[17] A 'lone-wolf' terrorist attack is conducted by a single person. The person acts alone in the preparation and execution of violent attacks and has no material help from any specific group. He/she may affiliate themselves to the beliefs and ideologies of a group but does not act in affiliation with them. Additionally, no group will claim responsibility for the attack (Ranstorp, 2013:88).

therefore allows probability statements to encompass the component of practical knowledge that cannot be determined by probabilities (Aven, 2013:46).

Additionally, by incorporating a knowledge component into an approach strategy, it establishes a robustness about the model. Political risk analysts are therefore able to identify actors and factors that may have been overlooked through quantitative methods. If risk analysts consider the generic factors which lead to a terrorist attack (for example, extremist behaviour, ethnic conflict or societal dissatisfaction), one is able to determine similarities. It is these similarities which provide the context towards an approach unexclusive in developing strengthened police and security systems, assisted decision-making and through specified scenario building. Aven (2010:48) mentions that the issue of anticipating and approaching a Black Swan event is not because there is insufficient knowledge, but that risk analysts and decision-makers do not expand on this unsolicited information. By this, the idea of a Black Swan event can be minimised in relation to risk and security measures. The way in which risk is conceptualised and the knowledge used to identify this by risks analysts will be discussed further later in the chapter.

Geographic Information Systems (GIS) and Global Security Insight (GSI) are both computerised programmes which link data to geography. GIS is a tool which analyses, stores, manipulates and visualises geographic information, usually presented in the form of a map. This is done by creating geographic data by risk analysts asking high-level questions which will guide the obtaining of the correct data. This is then managed, analysed and presented geographically so that decision-makers and stakeholders are able to identify the range of impact or the potential location of the crisis and how they are able to respond. Both of these approaches consider risk and potential events such as terrorist attacks, crime, civil unrest as well as kidnappings. The spatial thinking used operates as a decision-making assist to governmental stakeholders and MNE's in how to approach, respond and mitigate risks. These systems, which are employed by risk and political risk and security companies such as S-RM, Control Risks and Oxford Economics, consider these factors and variables, rating their likelihood and severity numerically. By doing so, their clients are able to visualise the severity of the impact and therefore approach it effectively (GISGeography, 2018). GIS and GSI approaches can be considered as an alternative way in which to approach extreme risks.

Sottilotta (2017:57) claims that when risk is translated into numbers, it provides a summary of the complexities involved. By amending the data so that it becomes more accessible to risk

analysts and stakeholders, it removes assumptions and ambiguity. This creates connections, allowing the data to become mobilised and actionable in favour of approach strategies used by the actors involved. Although she considers that probability provides some clarity in the numbers, this can often be an illusion. Translating socio-political variables into measurable entities entails precise epistemological and methodological assumptions, leading to large deficits in results in PRA. She suggests that this is how the potential of Black Swans are missed through PRA. By this, Sottilotta encourages risk analysts to consider more qualitative approach strategies to risk and uncertainties.

Probability has formed the foundation for many approaches in PRA and business intelligence. By considering methods such as the Bell-Curve and the like, analysts are able to forecast with significant accuracy the results and impacts of risks. A professor in business statistics, business forecasting and derivative developments of the Business School at Stellenbosch University says that not only are methods of probability able to be successfully used in business, that these approaches can also be applied to understand events in the political and social arenas. An example he uses is how close quantitative methods are able to forecast the increase or decrease of the Gross Domestic Product (GDP) of a country and the effects this may have on a country's credit rating, business outcomes, investor responses and even its social stability (Interview with Business Statistics Professor, July 2018). However, as it has been presented, probabilistic approaches run the risk of missing variables and factors based on the practical, real-life knowledge. This issue in PRA can be remedied through the qualitative approach and forecasting methods and strategies.

By considering these approaches, alternatives to approaching extreme risks and potential Black Swan events in PRA can be seen. By doing so, this exposes a wider range of risks that should be acknowledged in order for PRA to remain robust. These alternatives can be considered as critiques to the fact that Taleb considers Black Swan events to be inherently unpredictable. By these qualitative methods, risk analysts are able identify and strategically move towards high impact, low probability events. This proving that the way Black Swans are conceptualised and understood has an impact on how they are approached. This is of critical importance.

3.4. Qualitative Approaches to Black Swans in Political Risk Analysis

Qualitative research methods place an emphasis on in-depth knowledge collected from a variety of case studies. By doing so, risk analysts are able to identify and work from generalisations about phenomena's as a whole (Burnham, Lutz, Grant & Layton-Henry,

2008:41). These strategies utilised focus on determining and analysing variables and factors which are often missed through quantitative methods. Quantitative methods in PRA allow risk analysts to consider risks and their impacts by paying specified attention to related issues and difficulties surrounding risk communication. Risk communication allows for the conditions surrounding high impact, low probability events to be effectively approached and overcome more so than through quantitative methods (Wardman & Mythen, 2016:1220). This will be expanded on below by presenting alternatives to the risk approach through qualitative methods.

3.4.1. Increased Methods of Communication and Diplomacy

Wardman and Mythen mention that one of the crucial ways in which to rectify the difficulties resulting from 'anticipatory solutions' to 'foresighted problems', is that there needs to be a more holistic approach to risk. They suggest that this can be done by decentring the current focus on short-term security outcomes common to uncritical responses to Black Swan events. Furthermore, in order to do this, risk analysts and decision-makers should approach risk communication through 'Adaptive Governance' principles. This would expand the scope, logics and capacities of organised risk responses when confronting high impact, low probability events (2016:1221). They mention that one of the main principles of this approach is through the increased distribution of information. The information surrounding risk is gathered and shared, which allows for the organisation and efficient response to risks. The wide dispersal of this information means that risks are constituted across locations and different relational forms allowing for successful forecasting (Wardman, 2008:1620). The increased communication allows risk analysts to understand how people may appraise and respond to these risks, providing an integral strategy for planning future action and managing and responding to events as they may occur. Furthermore, increased information and communication introduces the reinforcement of regulations and procedures which will improve safety measures and risk related conducts (Wardman & Mythen, 2016:1223).

In addition to this, the authors consider adaptive principles approach to be done with more expansive data and a conducted agenda, focusing on process-driven forecasting. In their analysis, they present high impact, low probability events to be ones which are slow-motion and are therefore constantly changing (Hardy & Maguire, 2016:91). By identifying these slow moving triggers and through increased risk communication, the impact of these events could be drastically alleviated (Wardman & Mythen, 2016:1226). The authors state that extreme risks are formed through slow motion triggers and can be considered as a critique of Taleb's theory.

The triggers allow for the identification of possible high impact, low probability events, suggesting that an approach can be established.

Similarly, Klinke and Renn (2012:280) mention that adaptive approaches to high impact, low probability events should include a dynamic process of continuous and gradual learning, which includes and is guided by different values and frames of reference. Secondly, it should include interdisciplinary risk and concern assessments incorporating natural, technical and social science perspectives. Thirdly, there should be an assessment of the limits within the knowledge, finding a 'common ground' to resolve the ambiguities and complexities. Lastly, there should be a focus placed on the selection and implementation of policies subject to ongoing monitoring. This aids the adjustment of calibrated responses. Furthermore, organisations and stakeholders which incorporate regular dialogue with local actors when developing and maintaining their foresight policies are able to better position themselves in anticipation and approach for high impact low probability events. By establishing good relationships, a greater level of cooperation is fostered and the operational responses to such events are better equipped (Coombs, 2013:56).

Additionally, Bremmer and Keat consider environmental shaping to be a key strategy in approaching high impact risks. Taleb mentions how Black Swan events are all-encompassing in their impact and devastation, regardless of industry however, Bremmer and Keat mention that by understanding the industry and the environment in which it is found, stakeholders and MNE's are able to shape the trajectory of their business significantly. Organisations are able to do this by influencing lobby legislatives for a more favourable regulation, thus mitigating any potential risks which may affect the business. Furthermore, the authors claim that by communicating with and forging alliances with local stakeholders and citizens, they are able to win their support which will positively influence business operations. This can be seen through the work and local investment made by the mining company Anglo-American which has spent a large amount of money in several countries to help shape the public perceptions of its work. These local investments include support for community activities, arts and education. This helps maintain friendly relations with local and political leaders and thus creates an environment whereby disputes which may escalate into high risks with large impacts, are quickly resolved (2009:32). This method of communication, partnered with local investing allows for organisations to influence their business environments in such a way that shapes potential risks and the impact thereof. By doing this, an alternative way in which to shape risk and the effects, it allows for better understanding of how to conduct an approach.

Jervis (2010:484-485) considers this to be a form of diplomacy which organisations can use in approaching the risks of the respective host environments. He mentions that because people act and make decisions based on biases or fallible views of others, this creates complications and increases risks and the impacts thereof. Beliefs and behaviours are key factors in the formulation of high impact, low probability events and by understanding these alongside the nature of such events can aid approach strategies. He gives the example of a war ensuing, stating that if actors are aware of and expect certain conditions will lead to a war, and if they believe that there is nothing that can be done to stop this from occurring, then they will act in a way that will bring about the war. Jervis furthermore claims that if political actors are aware of the typical factors which lead to a war such as when a weaker state grows rapidly and begins to annex another, or when a more developed country uses its strength to provoke a weaker country, or if the war is seen as a costly venture for both parties, this is where diplomacy can be used to approach a war.

Violent conflicts, including ethnic conflicts, are not unavoidable but can be prevented and the impacts mitigated through methods of prevention such as increased methods of diplomacy. Ramsbotham, Woodhouse and Miall (2016:150-151) state that relevant actors should consider specific interventions that may prevent high impact, low probability events. Reasoning through diplomacy allows actors to anticipate and avoid an undesired outcome. By acknowledging the conditions which need to be present for a particular event to take place allows for actors involved to approach it relatively successfully. Furthermore, by considering how often these conditions take place in similar kinds of events enables actors to understand a pattern of triggers and outcomes, permitting anticipation which means that people will act differently. By this, the event is then foreseen and cannot be classified as a Black Swan. These patterns and events can be built into specific models of scenario building and early warning signals.

3.4.2. Scenario Building and Early Warning Signals

Taleb mentions that the crux of a Black Swan event is that nothing in history can point to its existence and occurrence, especially ‘precise Black Swans’. Here these ‘precise Black Swans’ are considered to be events which are foreseen with each detail being accurately predicted, suggesting that the Black Swan has an element of forecastability and approach (2007:208). This apparent paradox is considerably important when contemplating the possibilities of approaching risks in PRA as well as Black Swan events, and how its ‘outlier’ status can be reviewed.

One such method in which these 'outlier' factors of high impact, low probability events are accounted for and approached in PRA is through scenario building and early warning signals. This method of approach covers the interaction between risks and any other possible developments, whether they have a positive or negative impact on the situation at hand (Assessment Capabilities Project, 2016:2). Although there are different methodologies when comprising specific scenarios, it involves eight general steps. The main objective of scenario building is to inform strategic decision-making by considering a range of variables and indicators. By identifying and analysing alternatives, as well as accommodating egregious factors an approach to high impact, low probability events can be formulated and executed.

The first of these that a focal issue should be identified. Here a specific question about the future an organisation may be confronting is analysed. Secondly, driving forces need to be recognised. The driving forces represent key variables and their trends in the macro environment which influence the focal issue in question. Some of the drivers may be the demographics of a country, socio-political drivers, cultural and religious drivers and economic drivers (Puget Sound Future Scenarios, 2008:1-2). Thirdly, these drivers need to be ranked in importance and in their level of uncertainty. This step directs the outcome of the final set of scenarios as the two most important and uncertain drivers identified will determine the most divergent and relevant future conditions. The fourth step is to select the scenario logics by exploring the interactions of the most uncertain and important drivers so that alternative frames are created. This is how a divergent, yet plausible scenario is established. Next is to flesh out the scenarios and then select indicators to monitor. Each scenario is developed by exploring the implications of alternative trajectories and how this may affect the end result. After this, a set of indicators which should be monitored are selected in order to assess the implications of alternative futures based on the focal issue. Using these selected indictors, planners will assess how the focal issue is impacted under each scenario. Lastly, an assessment of alternative strategies is conducted (Puget Sound Future Scenarios, 2008:3-4).

A professor, specialising in political economy, international relations, global health and public policy at the University of Stellenbosch mentions that scenario building is a key technique in analysing potential high impact events. They have worked on a number of scenario projects between 2003 and 2005 for a United Nations AIDS mission in Africa alongside the oil company Royal Dutch Shell and considers these high impact, low probability events to be "wild cards" (Interview with International Relations professor, July 2018). He mentions how the methodology of scenario building can be applied to any particular event - fiscal, political,

natural, biochemical or health related scenarios and that it is not an industry specific approach. Although he mentions that room must be made for potential high impact, low probability events or wild cards within scenario building, he states how it is possible to forecast these unforeseen events with a considerably amount of accuracy. By being able to acknowledge and account for these wild cards places into question the outlier status of Black Swan events as proposed by Taleb. If risk analysts and decision- makers are able to identify extreme variables or wild cards, it can no longer be determined as an outlier and the issue of Narrative Fallacy is eliminated. This can therefore be considered as an opposing view to Taleb's developed theory on Black Swans. As the respondent stated, because wild card events can be identified, they will no longer come as a surprise, their devastation can be prepared for and Narrative Fallacy is dissolved.

A similar approach to high impact, low probability events to that of scenario building is by identifying early warning signals. Ramsbotham, Woodhouse and Miall (2016:151-152) mention that there are two primary tasks when establishing early warning signals, the first being the type of event and location and, secondly, their progress should be monitored and assessed in order to know how close to violence and devastation it may be. This approach places a particular focus on fundamental indicators in relation to the type and location of the event as well as alongside a timeframe. Furthermore, the authors make mention of Ted Gurr's work on finding indicators through his study, Minorities at Risk recognises three primary factors which affect the proneness of minority groups to rebel. These are; collective incentives, the capacity for joint action and external opportunities (Gurr, 2000:225-227). These indicators are justified through data sets which correlate the magnitude of civilian unrest from the following year. This allows the likelihood of such events taking place once again to be ranked in accordance and therefore can be approached correspondingly. From this perspective, conflict analysts are able to consider indictors from past occurrences as well as current factors in approaching high impact, low probability scenarios.

Other models of early warning signals take place in the form of econometric forecasting which has been built around specific events. This approach considers political exclusion and horizontal inequalities when analysing the increasing risks for civil wars. By factoring in economic disparities, low income per capita and stagnant growth this increases civilian discontent and advances the likelihood of a civil war (Cederman, Gleditsch & Buhaug, 2013:136). Other academics have developed indicators, state failure, food crises and environmental devastation. Goldstone (2008:6-7) mentions that by combining models and

indicators, risk analysts and decision-makers are able to better forecast instability and other high impact, low probability events. He further mentions four particular indicators which were able to successfully forecast 80 per cent of the probability of specific countries experiencing political crises within a two year period. These indicators were regime type, infant mortality, high levels of discrimination and the presence of armed conflicts in neighbouring states. The determined outcomes of these indicators are revolutionary war, ethnic war, regime change and genocide, all of which have significant impacts but can be effectively approached when the correct factors and variables are considered.

Ramsbotham *et.al*. (2016:153) are in agreement and state that by utilising qualitative methods to monitor potential high impact, low probability events offers vaster, more content rich contextual information than quantitative statistical analysis would. When considering the occurrence of a conflict or scenarios of this nature, it is easier to forecast other similar events as a result due to their recurrent and protracted nature. By identifying and adequately analysing the correct actors and factors, approaching high impact, low probability events becomes more realistic. Through the consideration of these methods, it negates Taleb's claim that transitions into crises or contagions cannot be predicted through PRA (2007:272). The thesis will present further approach strategies in how the outlier status of Taleb's Black Swan is challenged by methods of imaginative thinking and prediction, the knowledge dimension and through rational thinking.

3.4.3. Rational Thinking Strategies and the Conceptualisation of Risk

Taleb mentions that one of the main reasons for the unpredictability of Black Swan events is a result of risk analysts and decision-makers' learning with too much precision instead of observing events from a general perspective (2007:xxi). As mentioned, he calls this the platonic mind-set whereby what risk analysts think they know and what they actually know creates a fundamental gap whereby Black Swans find their niche environment to develop (2007:xxv). The fact that people think they are able to forecast such outliers and Black Swan events is the paramount reasoning for their epistemic ignorance (2007:165-166). However, Aven and Krohn (2013:1) mention that though the knowledge dimension, unforeseen and potential surprises can be better identified than what the traditional approaches allow for. The authors mention that these traditional methods (being probabilistic based methods) in PRA are too narrow, ignoring and concealing important aspects of risks and uncertainties which could identify potential high impact, low probability events. They do not neglect the importance and value of methods of

probability, but they focus intently on the fact that without a knowledge component, probabilities will almost always fail.

One of the pillars in this knowledge dimension is that of a conceptual framework. Aven and Krohn mention that in order to accurately assess and manage extreme risks, risk analysts need to see beyond probability statements and adopt a broader understanding of risk in order to capture outliers. There is an emphasis placed on the conceptualisation of risks and how they should be amended so that they are more relevant to the purpose of forecasting. New risk perspectives have established a sustainable foundation for the conceptualisation of high impact low probability events (2013:2). Aven and Krohn examine the rationale and type of knowledge used by risk analysts and decision-makers in PRA. Navigating the knowledge used in building models and approaches increases robustness and the visibility of potential high impact, low probability events.

Aven and Krohn propose four basic fundamentals to aid the reconceptualisation of risk concepts and perspectives. The first of these is that a suitable risk conceptualisation needs to be formulated in order for the understanding, assessment and management of risk to be in line with the framework being utilised. This conceptualisation should incorporate the future consequence of the activity, by incorporating and understanding current hazards or threats. By doing so, the outcomes of these threats can be identified and therefore approached effectively (2013:8). Secondly, a suitable theory, basic principles and methods for the risk assessment should be found and placed in line with the reconceptualisation. This will allow for risks and their responses to be adequately developed and executed. Here the conceptualisation of risks will directly determine the opperationalisation of the models and approach strategies. Thirdly there should be a constant review of the concepts and ideas in consideration. This forms part of an evaluation process that is necessary in order to keep approaches and models robust (Aven & Vinnem, 2007:132). Through this quality discourse, outliers are highlighted and approaches can be refined. The final characteristic proposed is the incorporation of collective mindfulness. By increasing the mindfulness and willingness of organisations to be increasingly sensitive towards operations, committed to resilience and deference to expertise is considered as an effective approach mechanism in of itself. Collective mindfulness can be used as an effective instrument for managing risks, potential events and unforeseen factors as well as refining and keeping methods and approach strategies relevant and robust (Aven & Krohn 2013:2 & Khorsandi & Aven, 2013:873).

In accordance with the conceptualisation of risk and perspectives depending on the relevant variables and factors, Runde (2010:494) considers high impact, low probability events to be observer dependent. He explains that people may experience different events in different ways depending on the nature and the industry of the occurrence. However, Taleb proceeds on the basis of the common-sense assumption that there is a close enough connection between any event and the different ways people may experience and talk of it for it to be experienced in the same way (2007:53). The distinction between the conceptualisation of risk and ones knowledge about the event must be considered in the approach strategies developed as well as whether or not it can be labelled a Black Swan event. Therefore, it is the boundaries of what can be determined to be a Black Swan event that must be considered as different people belonging to different industries may experience, describe and interpret the same event in differently.

Runde proposes the rational-expectations theory to be part of the framework in developing models and approach strategies. This theory considers the rationale in line with the nature of the business and the specific risks posed to the stakeholders so that admissible models and approaches can be established. By doing so, decision-makers and business investors are able to identify risks which are specific to the industry and social context, making high impact, low probability events foreseeable and approachable (2010:496). With regards to the extreme impact that is characteristic of a Black Swan, observer dependence of the event follows from the fact that there are no absolute, observer independent standards which counts as extreme impact. This too is something that will depend on positions, interests and evaluative attitudes of decision-makers which will inform their understanding of ‘extreme impact’ and thus their methods of approach.

Similarly, Lindaas & Pettersen (2016:1233) put forward methods of ‘de-blackening’ the Black Swan by considering the characteristic of its outlier status. They too mention that these events are inherently perspectivistic in that their existence and associated uncertainties are dependent on the eyes of the beholder. Therefore it is not an objectively defined phenomenon but rather it was not expected by the particular observer. Additionally, Taleb considers the unexpectedness of a Black Swan event to be a lack of knowledge however, if the event itself is to be considered a surprise this is an indication of the presence of an expectation and therefore cannot be claimed as an outlier (2007:xix). This again speaks of the academic paradox and conceptual dilemma of what constitutes a Black Swan. This can be negated by firstly noting that the ‘surprising’ aspect must be understood in relation to whom and when (Aven, 2015:84).

Secondly, Lindaas and Pettersen state that by the sharing of knowledge and beliefs through effective channels of communication, the element of surprise can be significantly reduced. Once this has been removed, the event cannot be considered a Black Swan.

Furthermore, knowledge about what is considered as an *unknown known* can be turned into *known knowns*. In this regard, risk analysts and decision-makers assess the knowledge they have about the risk factors and variables and how this may result in a high impact, low probability event and thus plan accordingly. There is an emphasis made on the dissemination of knowledge whereby one is simply informed of what lies ahead (Zizek, 2008:457). However, if there is no existing knowledge that an attack, for example may occur, this can similarly be approached through relevant cognitive processes, imaginative prediction and other collective practices. This is a certain strategy in accessing tacit knowledge, thereby identifying triggers which constitutes an approach to the event (Lindaas & Pettersen, 2016:1236).

Imaginative prediction is not a closed process and is ongoing. This continuity provides the preoccupation with the elicitation of ideas based on the acknowledgement that surprises are possible (Pettersen, 2013:110). The continuity allows risk analysts to identify possible triggers and how these may develop over time. Additionally, they mention that forecasting includes the search for weak signals, organisational shortcomings and better ways to describe threats and dangers. By doing so, risk assessment and management processes remain relevant and robust. Secondly, the authors mention that PRA needs to possess process connectivity in order to identify risks successfully (Gross, 2010:40). The more people and expertise are involved in imaginative thinking, the more accurate the forecasts become. Therefore, diverse approaches, mind sets and experiences need to be interconnected in the analysis of risk (Lindaas & Pettersen, 2016:1241-1242). By implementing these steps in PRA does not prevent surprising events from happening but improves preparedness. However, even if an unforeseen event takes place, the authors mention that due to the nature of these steps the consequences of such will still be easier to manage.

By acknowledging how a conceptual framework affects the understanding of risk, risk management shapes how risk analysts and decision-makers are able to approach potential events. The conceptualisation of risks therefore has a direct influence on how models and approaches are compiled in PRA. Furthermore, by considering process connectivity and continuity alongside the relevance of information used allows models to be more adaptable and

robust against extreme risks and uncertainties. The practicality of this will be shown in the following section.

3.4.4. Assumption Analysis and other Proactive Approaches

Baxter (2016) claims that traditional PRA relies on the identification of risks based on the experience of risk analysts and stakeholders in the enterprise, suggesting that if the risk is outside this realm of experience and expertise, it more than likely will not be considered. This is considered to be a primary reason as to why Black Swan events cannot be managed or approached. He also mentions that even brainstorming techniques will be an unlikely method in capturing Black Swans in that they will result in either too narrow or too broad assumptions. However, through assumption analysis, risk factors and triggers are better identified. By recognising a number of assumptions (featuring both internal and external factors) which range from low, medium and high impact, risk management, business strategies and approaches can be developed. These assumptions should be considered separately from the already prevalent risks as often these high impact, low probability events are unrelated to what is already seen and determined. Assumption analysis includes measures of proactivity as the assumptions are actionable and thus reduces potential impact. Secondly it is reactive as contingency plans are developed, establishing ready approaches if a Black Swan event did materialise.

Similarly to this, the Assumption Based Communication Dynamics (ABCD) is a formal methodology which enables the capturing of different knowledges and viewpoints from stakeholders by encouraging the communication of issues and assumptions. This is considered as a proactive management of risks. This approach places a great emphasis on communication and the improvement thereof so that risks can be increasingly avoided or managed proactively. Furthermore, the model focuses on assumptions rather than risks which allows decision-makers and stakeholders to feel and act more positively where there would normally be a discomfort surrounding potential risks and the assessment thereof. There are three key characteristics of the ABCD method, the first being increased communication. This provides a simple, common language on risk, making the potential of high impact, low probability events manageable and actionable. Secondly, the method gives control to decision-makers and stakeholders by providing a simple overview of the complexities involved in risks. This increased control facilitates as a decision making structure allowing for the approach towards these risks. Lastly, this method also provides flexibility which can be tailored to specific industries or

environments, ensuring that all significant risks to the projects are identified and controlled at the appropriate time (De-Risk, n.d.).

The ABCD methodology is based on assumption analysis, which uses structures and techniques through various sources of information. Once this has been considered, assumptions which ranked (whereby A is extremely low risk and D is extremely high risk) as the most unstable are assumed to have the greatest risk. Because there is no 'medium' ranking, this provides more effective guidance on how to best approach the risk and its potential effects (De-Risk, n.d.).

Another proactive measure in potentially approaching Black Swan events is through block-chain technology. Coulson-Thomas (2012) mentions that in order for risk analysts to be better prepared for risk and their potential impacts, PRA needs to become increasingly innovative and explore alternative methods. He suggests block-chain technology to be one such way in which this can be done. Block-chain is a database in which experts from different fields and industries are able to input information. This information is then managed through a computerised program, whereby it is sorted and stored according to relevance. Digital trust in is ensured through authentication and authorisation keys so that only credible information is contributed to the system. Once this has been done, a master copy is then sent to clients or risk analysts and models and approaches are compiled from this. Because this information is always being updated by various experts from their respective industries, the models and approaches in use are benefiting. This offers a robustness to the models and methods in use, as stakeholders are able to make decisions with precision (Bauerle, n.d.).

Le Merle (2011) mentions that because Black Swan events often have a ripple effect even if they initiate in a specific industry, large companies should consider a variety of factors in order to identify and mitigate potential business disruptions. He states that this is typically done through Enterprise Risk Management (ERM). ERM is a plan-based business strategy which aims to identify, assess, prepare for and approach any dangers, hazards and other potential disasters. This discipline calls for corporations to identify all the risks that they may face and then to decide which of these to manage effectively. However, Le Merle states that because this method primarily focuses on the day to day risks a company faces, it does not have the capacity to monitor potential high impact, low probability events on a continuous or regular basis.

In addition to this, Le Merle claims that due to the specific nature, the instability of its variables and indicators as well as its quick manifestation, Black Swans should be considered alongside

disrupter analysis. Although the author mentions that neither ERM nor disrupter analysis can predict a Black Swan event, the latter aims to complement the former. This is designed to periodically administer stress tests to large companies in order to assess their ability to withstand potential Black Swan events. Disrupter analysis consists of a four-step process, shaping the enterprise, determining the depth of potential disruptions and considers 'what-if' questions to obtain the likelihood and severity of such events. Furthermore, Le Merle states that the key to creating a list of potential Black Swan events is to cast a wide net by cataloguing possible catastrophic events. This net should be wide enough so that it includes representatives of as many Black Swan categories as possible (political, social, economic, environmental and technological). Once this has been done, they should be categorised according to the severity of their impact and this synthesised, workable list therefore encapsulates the possible Black Swan events businesses could experience. Although the author maintains that one could never be prepared for every possible Black Swan, ERM alongside disrupter analysis can complement the day-to-day developments in risk, therefore incorporating antifragility into the models and approach strategies.

Another proactive approach which can be used in PRA is through the consideration of Actors, Factors, Time and Location. With the continual analysis of these relevant indicators, risk analysts will be able to identify and approach potential high impact, low probability risks and their causal events. This novice approach can be used alongside developed models in PRA in order to ensure accuracy in forecasting as it considers developing trends which may impact business or governmental trajectories. This approach also considers the socio-political status of a country to be of high importance as this influences how it is able to and how effectively it can respond to devastation. As this approach is applied to existing models of approach in PRA, it allows risk analysts to identify high impact, low probability risks and approach them timeously. Below is a risk index for the approach which will be applied to examples of scenarios in the following chapter.

Table 2: A Novice Approach to High Impact, Low Probability Risk and Events – an Index:

Risk Indicator	Description
Actors	- Actors who should be considered based on socio-political trends. - Terrorist organisations. - Flight risk individuals.
Factors	- Motivations, aims and objectives of the Actor. - Laws in a country which evoke violence (e.g. gun laws in America). - The involvement of countries in anti-terrorism coalitions. - Western enemies of terrorist organisations.
Time (Opportunity)	- The specific time around religious or national holidays provide favourable circumstances for unexpected events. - Music concerts/festivals. - Sporting events. - Any gathering where there is a large number of people. } Opportunity.
Location	- Where is the risk analysis being done? - Location will determine the likelihood of events. - Location and socio-political status will determine resource availability and deployment. - Location will determine response mechanisms and impact of devastation.

3.5. Conclusion

By acknowledging the different strategies and methods risk analysts are able to utilise in identifying and approaching extreme risks, how Black Swans are constituted is often questioned. The way in which events of this nature are understood and approached are therefore needing clarification in order for PRA to remain credible, robust and necessary to investors. Through the analysis presented above, Taleb's characteristics on what constitutes a Black Swan are heavily critiqued. This can be seen by the developed quantitative and qualitative methodologies. It must be noted that there are many other ways in which one can successfully approach risk however, it is impossible to consider an exhaustive list in a Master's thesis. Those which have been presented are deemed most important by the author for the purposes of this study as she contemplates possible alternatives, critiques and oppositions to Taleb's Black Swan theory.

Quantitative methods, largely formed on the foundation of probability, have been a popular technique in identifying and approaching risks, with models being structured along similar lines. However, as a result of the fact that high impact, low probability events cannot be fully captured through numeracy, gaps are presented whereby Black Swan events find their niche. This is remedied through qualitative approaches which ranges from increased communication

strategies, diplomacy, conceptualisation and environmental shaping. Although both quantitative and qualitative methods claim that one is able to identify the triggers which may lead to Black Swan events, it cannot be firmly declared that surprising events do not happen. However, how Black Swan events are understood needs to be refined in order for PRA to be able to identify and approach related risks. Here it is important to understand that it is the perspective of how a Black Swan is conceptualised and observed which will ultimately determine how it can be approached. By considering these approaches towards high impact, low probability risks and related events, it is determined that the applicability of the Black Swan as a classification of events is misplaced. The next chapter will demonstrate this and show how risk analysts are able to consider and forecast high impact, low probability events by applying the abovementioned Novice Approach to three scenarios.

CHAPTER FOUR: THE RE-EVALUATION OF THE APPLICABILITY OF BLACK SWANS IN POLITICAL RISK ANALYSIS

4.1. Introduction

With the conceptual development shown in chapter two alongside the presented critiques and alternatives to approaching risk in chapter three, the way in which Black Swans are conceptualised and classified in PRA is enigmatic. In PRA, the Black Swan has been given a variety of names and is therefore interpreted and approached according to a specific understanding and perspective. Rice and Zegart (2018:5-6) mention in their findings that 21st century political risk is the probability that political action could impact business ventures significantly. They make specific use of the term 'political' action rather than 'governmental' action due to the growing role of different risk generators outside of the usual places such as capitals, army barracks and party headquarters. The nature of risk has changed to include a number of different factors. This suggests that with the utilisation of relevant knowledge and models, high impact, low probability risks and related events can be approached. The authors mention that a Blackfish Effect[18] is comprised of relatively new forms of potential risks that could critically derail a company and organisation. These risks are formed through conversations in homes, universities, the boardrooms of companies and on neighbourhood streets. All of these 'new' risks have an increase on the impact of risk and have been considered as one of the leading factors of cyber threats and terrorism. It is therefore determined that risk is dynamic and constantly changing. These changing risks should be acknowledged in PRA so that risk analysts are able to identify and approach them accordingly.

This chapter will discuss the applicability of the Black Swan in PRA. By undoing Taleb's Black Swan theory and its three primary characteristics, these kinds of risks and their impacts become more digestible through PRA. By this, events which were once considered impossible to forecast and approach become attainable and malleable. By reconsidering how high impact, low probability events can approached, the way in which this is done is dependent on the

[18] Rice and Zegart (2018:3-4) consider high impact, low probability events as the Blackfish Effect as a result of the large scale stock price plummet of 60 per cent at SeaWorld Entertainment Inc. This was a direct impact of the release of a movie titled *Blackfish* (2013) which exposed the treatment of its highlighted animal, the Orca and how this not only harmed them but their trainers too. Consequentially, many corporations such as Hyundai, Virgin-America Airline and Southwest Airline - cut their sponsorship and attendance to the park drastically declined. With the awareness brought by the small scale production SeaWorld, its entertainment stock plummeted from $38.92 in July 2013 to $15.77 million in December 2014. The stock had still not recovered by 2017. Thus the cascading impact of the film has been dubbed the *Blackfish Effect.*

observer of these risks and therefore determines their subsequent impacts. The perspective from which the particular risk is approached is conditional on factors which may be more relevant to one organisation or country than another. What might be considered as high impact and low probability to some, may not be to others. Therefore, there are certain criteria which can be used in order to approach these risks. This chapter will demonstrate how the application of four primary indices, Actors, Factors, Time and Location - may help identify these kinds of risks. Once these high impact, low probability risks are recognised, this will aid risk analysts to develop the necessary approach strategies. However, it should be noted that a state's ability to respond to crises and utilise approach strategies is dependent on their resource capacity and availability.

This chapter will show that by acknowledging relevant indicators through the Novice Approach mentioned in chapter three that they can be classified as high impact, low probability events in PRA. With the other approaches mentioned in chapter three alongside this suggested perspective, it indicates how high impact, low probability risks can be forecasted and therefore their impacts minimised. By doing so, Taleb's Black Swan as a classification of events can be removed from PRA.

4.2. Recapitulation of the Black Swan in Political Risk Analysis

This study so far has considered the conceptual developments which have taken place in PRA and how this has shaped risk analysts' approach to risk. PRA has expanded to include country risk, transfer risk and regional risk so that the relevant factors and indicators can be identified and analysed. In addition to this, when considering political uncertainty and instability in the conceptualisation and opperationalisation of PRA, this has further enabled risk analysts to understand and approach the relevant risks and corresponding factors. This has made PRA increasingly robust in its opperationalisation and therefore has improved the accuracy of its analysis.

Furthermore, Taleb's Black Swan theory has provided the opportunity for conceptual and operational expansion in PRA. Risks associated with Black Swans, which Taleb has claimed as impossible to identify and plan for, have propelled risks analysts to consider a variety of approaches. Black Swans have previously been cryptic to understand and therefore difficult to approach, thus resulting in the impacts of such risks being devastating to business and societies and therefore significantly influencing its trajectories. Furthermore, as a result of the many different names given to the Black Swan, this has contributed to its complexity. Examples of

these other names are Wild Cards[19], Fat Tails[20], The Black Fish Effect[21] and Perfect Storms[22]. These different perspectives on how high impact, low probability risks can be approached became problematic for risk analysts as they lacked agreed upon clarity and understanding. Although each of these concepts has differences in comparison to Taleb's Black Swan, they all have fundamental characteristics in common, i.e. being that these low feasibility risks develop into events which have catastrophic impacts, amplified by failed approach strategies. However, because there are commonalities in these various understandings of the Black Swan, this has allowed for the creation of competent approaches to these risks and their potential events.

The challenges surrounding the understanding of Black Swans has prompted alternative ways to develop approach strategies so that these risks become manageable. As it was presented in chapter three, these approach strategies are based on either quantitative or qualitative methods. The techniques range from methods of probability and statistical approaches to environmental shaping, the development and application of relevant knowledge and scenario building. These methods have been established as a general opposition to Taleb's Black Swan, as they are presented as alternatives with which to approach risk. By doing so, the way in which high impact, low probability risks are identified, analysed and therefore approached has further advanced PRA.

One such method of approach towards high impact, low probability risks is scenario building. Professor of International Relations at Stellenbosch University discusses his experience with this strategy saying that if analysts are theoretically able to develop a scenario which has a built in 'wild card' element into its structure, its 'wild card' status is thus questioned. Once these risks and scenarios are identified, it should then be considered and analysed as the other, more 'regular' risks. This he contemplates as an academic paradox to which Taleb's Black Swan theory can be likened. With the various approach strategies showing how risk analysts have been able to approach high impact, low probability risks, it brings into question the validity of the unforseeability of a Black Swan. Once risks of this nature are identified and developed into approach strategies, it can no longer be called a 'wild card' or a Black Swan. Furthermore, they state that approach methodologies such as scenario building and the like need to be robust enough to identify and prepare for high impact, low probability risks. He mentions that if this

[19] Interview with Professor of International Relations at the University of Stellenbosch, July 2018.
[20] Bremmer & Keat, 2009:2.
[21] Rice & Zegart, 2018:3-4.
[22] Cornell, 2012: 1824.

is not done, the job of scenario building in particular is not done effectively (Interview with International Relations professor, July 2018).

In agreement with this, the business professor interviewed mentions Taleb's academic dishonesty in his development of the Black Swan theory. He particularly considers Taleb's 'anti-fragility' thesis in saying that this is contradictory to his Black Swan theory. By incorporating methods of antifragility into organisational and bureaucratic structures, if high impact, low probability risks and events take place, they are still able to financially and politically operate, compete and benefit. This is in direct contrast with his idea of the Black Swan (Interview with Business Statistics Professor, July 2018). The way in which Taleb describes his Black Swan is done in such a way that its impacts will be felt across country borders and regardless of industry.

Furthermore, the interviewee mentions that Taleb uses particular examples which support his theory of the Black Swan, rather than considering a wide range of cases which may challenge his claims. An example of this can be seen by the failed attempts to forecast and approach of the 9/11 terrorist attacks, a classic Black Swan according to Taleb. Taleb puts forward that if this event could have been identified beforehand, it would have not taken place. However, the business professor from Stellenbosch Business School mentions a variety of terrorist and war-related aeroplane crashes and attacks dating pre-World War II. Examples of these include: on 14 June 1940, Soviet bombers shot down a Finnish commercial plane travelling from Estonia to Finland, killing nine people on board. One such passenger was an American diplomat, who was carrying sensitive diplomatic pouches from the United States of America Legislations in Estonia to Latvia. Another example is the plane crash which took place on 8 September 1974 from Tel Aviv, via Athens, Greece. 88 passengers were killed on this flight after an explosion caused the plane to crash. The suspects of this attack were terrorists linked to the Abu Nidal group. A third example is the flight traveling to Paris on 19 September 1989 brought down by a bomb in the suitcase over the Sahara desert. Six people were found guilty in absentia and were sentenced to life imprisonment (Terrorism and War-Related Airplane Crashes Fast Facts, 2018).

By acknowledging the various events which took place prior to the 9/11 terrorist attacks, one is able to identify similarities allowing adequate preparation time to implement approach strategies. In saying this, Taleb's example of the 9/11 terrorist attacks being a Black Swan cannot be labelled as such as previous events, along with the similarity presented by its trends,

would have pointed to its occurrence. With this is mind, it is here where the business professor respondents claim regarding Taleb's academic dishonesty can be seen (Interview with Business Statistics Professor, July 2018)

The conceptual developments which have taken place, alongside the identified approaches to these risks and related events, using the Black Swan term in PRA as an explanation of failed identification and approach must be questioned. However, the reader should take note that this thesis does not argue that surprising events do not take place, but that rather these high impact, low probability events can be effectively mitigated through a relevant approach.

PRA is designed to learn from trends and events and incorporate this knowledge into methods of approach. This is how PRA is constantly refined in the aims of a robust and relevant analysis. This can be done by identifying and analysing risks and corresponding events through certain approaches or angles. The next section will apply the Novice Approach which was shown in chapter three. This approach can be used alongside already developed strategies and should be applied and continuously monitored from when the risk report is required. This approach will be applied to three examples and will show how high impact, low probability events can be forecast with the consideration of relevant indices. This approach makes a specific mention of the importance of the location being analysed. The examples chosen will show how its location lends itself to resource capacity and availability, and socio-political status, and how this influences the probability and impact of such events.

4.3. A Novice Approach to High Impact, Low Probability Risks

By analysing high impact, low probability events, it can be said that they have largely been theorised from a Western liberal perspective. The Black Swan theory considers high impact, low probability risks and related events which have taken place in the Global North. Examples these events have taken place in America[23], Norway[24], France[25] and the United Kingdom[26]. These countries are of the presumption that the occurrence of high impact, low probability risk and related events is highly unlikely to take place on their home soil. Reasons for this include that these countries are characterised by general high levels of democracy and have relatively

[23] Japanese invasion of Pearl Harbour on 7 December 1941 and the 9/11 terrorist attacks in 2001.
[24] Andres Breivik lone wolf terrorist attacks in July 2011.
[25] A series of coordinated terrorist attacks took place in Paris on the 13 November 2015. This was shortly followed by a mass shooting and a series of suicide bombings outside restaurants. More than 130 people were killed and hundreds were wounded (Laffin, 2015).
[26] A terrorist attack which took place at an Ariana Grande concert in Manchester on the 22 May 2017 where 23 people were killed (Palazzo & Allen, 2017).

high levels of tolerance. They additionally value and protect human rights and have comparably low levels of crime. The combination of these contributes to a perceived political, social and economic stability partnered with high levels of safety and security which therefore establishes a perceived protection against such risks and events.

However, there has been a general increase in lone-wolf terrorist attacks as well as attacks claimed by the Islamic State of Iraq and the Levant (ISIL) in these countries. The regularity of these events has established a pattern which can be identified and analysed in PRA, suggesting that they should be classified as high impact, low probability events. Despite this, these countries have neglected the understanding of the causes and nature of these events and therefore have created a self-imposed 'blind spot' in their risk analysis. As a result of this, these countries are not successful in identifying and approaching high impact, low probability risks and related events and therefore still experience and consider these as Black Swans.

These new developments taking place in the Global North should be acknowledged so that these risks can be affectively approached. The Novice Approach provides risk analysts with relevant, general risk indicators which can be assessed in order for events to be forecasted. As seen in table 2, the Novice Approach comprises of Actors, Factors, Time (opportunity) and Location. The Actor is determined by the organisation, individual or any other perpetrator who is identified as a potential flight risk. The important Factors which are to be analysed are those which encourage the Actors to perform in such a way that incites violence. This could be determined by the involvement of a country or organisation who plays a strategic role in resisting harmful, destructive and illegal behaviour of the Actor. Alternatively, this can also be demonstrated by the gun laws of a country, safety and security procedures or the beliefs, aims and objectives of an individual.

The Time of a potential high impact, low probability risk to develop into an event is important to acknowledge. Religious holidays such as Christmas, Eid or Yom Kippur creates an environment for a surprising event to take place. Risk analysts as well as those celebrating may overlook the possibility of certain risks around this time, thus increasing its impact and probability. Additionally, the timing of such can also be related to a specific opportunity for the event to occur. Prime opportunities are music festivals, concerts or sporting events. This is due to the substantial number of people these occasions may yield. Lastly, the Location should be a primary point of analysis. Countries such as Jordan are more likely to experience high impact, low probability risks and related events in comparison to that of America. This is

determined by analysing the current state of affairs of the host country. Because Jordan neighbours Syria and Iraq, there is an increased probability of military intervention and terrorist activity. Furthermore, countries such as America have a greater state capacity and resource availability to mitigate the impacts and devastation of these risks than those that have lower GDP levels and political and economic stability.

Resource capacity and availability are integral in minimising the impact and devastation of high impact, low probability events, says a researcher from the Research Alliance for Disaster Risk Reduction (RADAR) at Stellenbosch University. She mentions that although these events occur with a significant element of surprise, its devastation is directly dependent on where this event has taken place. A country with a higher GDP such as America is able to drastically minimise the impact of destruction in comparison to a third world country. The more resources available alongside the ability to deploy them effectively, has a significant influence on the period of recovery a country experiences after these events have taken place. In this, she considers how these risks and related events cannot be classified as Black Swans as the impact is dependent on its Location and the resource availability (Interview with researcher from RADAR, 2018).

The interviewee continues to say that it is the socio-political status of the specific location which will either exacerbate or mitigate the devastation. The same event which takes place in two different locations can be experienced differently. The example she gives is the 7.0 magnitude earthquake which took place in Haiti in 2010. Here, she considers that if this earthquake was to occur in New Zealand (a country known for regular earthquakes and of a greater magnitude) it would not be as devastating. This can be attributed to the fact that the country has a wealth of resources available in managing high impact earthquakes due to their regularity. However, because it took place in a country ill prepared to manage this earthquake, alongside the poor socio-political status of the country, the devastation is increasingly entrenched and the period of recovery was extended. The initial impact of the earthquake transformed into another high impact, low probability event when the earthquake compromised the country's main sewage system and water supply. This resulted in a cholera outbreak, rendering further deaths and causalities. Therefore, one is able to see how the socio-political status, Location and resource availability of a country are determining factors on the impact of such events (Interview with researcher from RADAR, 2018).

With the understanding of the Novice Approach in mind as well as acknowledging how Location and resource availability affect high impact, low probability risks and related events, it will now be applied to three different events that have taken place at a music festival or concert. These examples were chosen to show the contrast between the Location and the Actors involved as well as how the Novice Approach can be applied regardless of this. By applying this approach to these examples, this will show how these examples should be classified as high impact, low probability events.

4.3.1. Terrorist Attack, Jordan: Fuheis Music Festival, August 2018

On 10 August 2018, an attack was executed near the town of Fuheis, north-west of Amman, the capital of Jordan. This city is a self-declared Christian city in a predominantly Muslim country, which borders Israel, Syria and Saudi Arabia. These countries have been characterised by civil wars, persistent conflict and the presence of increased terrorist activity claimed by ISIL. In identifying and analysing the political and social instability of the surrounding locations, the probability for high impact risks and related events therefore increases. The prominence of ISIL in this region, alongside its aims and objectives need to be considered in order for the approach to be applied and to remain effective in the risk analysis.

ISIL is an extremist group which is founded upon the Sunni Islamic religion. ISIL has established control over large sections of land stretching from central Iraq to northern Syria. The main objective of the group is the restoration and advancement of the caliphate[27] of early Islam, which includes its related political, religious and eschatological aims. Here there is a rejection of secular and progressive laws and lifestyles which are not founded on Sunni Law. Any person or state which does not prescribe to this ideal is thus considered to be an enemy of ISIL and of Islam. Therefore, it is determined that countries situated in the Global North that are predominantly governed by democracy are primary oppositions of ISIL. The group has been known to spread its caliphate through scare tactics such as the publication of beheadings onto social media platforms. ISIL has also claimed responsibility for a number of terrorist attacks and suicide bombings in Western countries such as the Paris attacks in 2015 (Lister, 2015).

[27] The caliphate can be understood to be a state under the rule of an Islamic leader known as the 'Caliph' who is considered as a successor to the Prophet Mohammed. The caliphate of ISIL was first established in Syria, where the organisation controls large portions of land and oil fields. Although this has since been eradicated as a result of the declared War on Terrorism, ISIL continues its guerrilla warfare (Cocker, Schmitt & Callimachi, 2017).

A home-made bomb was placed under a police car on duty at the Fuheis Music Festival, which was then detonated. As a result, a shootout between the perpetrators and the police ensued at a building where the suspects were hiding. Several bombs exploded during this raid, resulting in the collapse of the building and the death of four security members, three suspects and injuring a further 20 civilians. ISIL has since claimed responsibility for the attack, naming them the primary Actors. Because of the Location of the attack, there is naturally a higher risk and probability for these events. This is due to the profile of its neighbours, as well as the fact that it is a Christian city and the country borders Syria, the motherland of ISIL. However, Jordan has statistically not experienced as much terrorist and military activity in comparison as the last terrorist attack in the country was recorded in 2016. This suggests that for this specific Location, the probability of regular terrorist attacks in the area is moderate (Hamed, 2018).

The Fuheis Music Festival provided ISIL with a prime opportunity to execute an attack. The festival is held annually in Jordan and is the second biggest music festival hosted by the country. It welcomes bands and artists from Jordan, Syria, Palestine and Lebanon to perform music and participate in poetry evenings. This event is not a religious celebration as artists have incorporated Western compositions into their performances. This event is highly anticipated event by the Jordanian people and yields a crowd of 10 000 and 20 000. Due to the number of people the festival brings, police and other security personnel were employed to check concert-goers upon entry. These check-points were positioned at a safe radius around the concert area, making sure that no weapons and other harmful possessions were brought into the grounds. By identifying this, it can be determined that police and security personnel had identified the potential for a high impact, low probability event. This was done by considering the nature and size of the concert alongside the aims and objectives of ISIL. Although an attack still took place, this was done on the outskirts of the established check-points which significantly minimised casualties (Embury-Dennis, 2018). Some of the primary Factors to analyse allowing risk analysts to forecast this event taking place is that Jordan has played an active role in an international military coalition which has helped push back ISIL. This operation has focused on neighbouring Syria and Iraq, which is considered the homeland of ISIL. Furthermore, the country's predominantly Christian demographic should also be identified as a Factor to encourage attacks of this nature. As the country does not prescribe to the Islamic religion, it is considered as an enemy of ISIL and therefore becomes a targeted Location.

By analysing the relevant Actors, Factors, Time (or opportunity) and Location of the event, this allowed security personnel to act cautiously and timeously. Security forces were deployed

to the music festival as the Actors and Factors were identified and analysed. In doing so, the potential for an attack to take place was acknowledged and approached effectively. Although there were still causalities as a result of the explosion, the number of these was significantly minimised. This shows that when the relevant risk indicators are identified and continuously analysed, an event of this nature can be approached. The approach shows that regardless of the fact that the attack was conducted by ISIL in a Middle Eastern country, that it can still be successfully approached and mitigated. By this, it is classified as high impact, low probability event.

Table 3: The Novice Approach – Jordan, Fuheis Music Festival

Indicator	**Description**
Actors	- Terrorist organisation, ISIL.
Factors	- Fuheis is a Christian city. - The music festival is considered a 'Western celebration' - Jordan has played an active role in international military coalitions resisting ISIL.
Time (Opportunity)	- The music festival provided a prime opportunity for an attack. - Large gathering of people.
Location	- Jordan borders Syria and Iraq (home territory of ISIL). - Area characterised with civil wars, terrorism and military intervention. - Resource capacity made available by identifying possible risks, minimising impact and devastation.
Overview	By analysing these risk indicators, this is classified as a high impact, low probability event.

4.3.2. Terrorist Attack, Manchester: Ariana Grande Concert, May 2017

On 22 May 2018 a suicide bombing took place at an Ariana Grande concert in Manchester, United Kingdom. ISIL has since declared that it was a member of their organisation, Salman Abedi, who detonated a homemade bomb as concert goers were leaving the venue. Although Abedi acted alone in the event, ISIL is still considered as the primary Actor. The explosion resulted in the deaths of 23 people and injuring a further 300 out of the 15 000 large crowed. When applying the Novice Approach to a risk analysis, the concert is identified as a prime opportunity for an attack to take place. Considering the vast number of people who attended this concert, this provided a niche opportunity for ISIL to execute an event of mass devastation, panic and bloodshed. Although this is the largest documented terrorist attack to take place in Britain since the London bombings in 2005[28], there have been a number of similar events which

[28] On 7 July 2005, a series of coordinated suicide bombings were detonated, targeting commuters using the public transportation system during the morning rush hour. Three bombs exploded in quick succession whilst

have taken place in Britain and Western Europe. Some of these include the suicide bombings in Brussels in 2016[29] and the attack outside Westminster Palace in 2017[30]. Furthermore, the possibility of a terrorist attack in the United Kingdom has steadily increased since August of 2014. The analysis of these familiar trends has shown that its status has veered between substantial (an attack is a strong possibility) and severe, being that an attack is highly likely. This status has not dipped below 'substantial' since 2008 (Palazzo & Allen, 2017).

By acknowledging and analysing the increase in these trends and features of terrorist and lone-wolf activity, events such as these are classified as high in impact and low in probability in PRA. As the likelihood of these events has increased in the West, this suggests that they are able to be forecasted through a continuous risk analysis. Because of the Location of this event alongside the Western liberal theories and mechanisms applied in their analysis, these countries believe that they have an extremely low probability of occurrence. Therefore, one is able to see how this 'blind spot' disrupts PRA and its related approaches in identifying risks and forecasting events. However, by analysing the increasing trends in terrorist activity with the Novice Approach, this can be successfully accomplished. Thus the Global North still experiences the largescale impacts and devastation of these events, despite their regularity and the resources available to forecast them. This is a result of the mismanagement of the resources available to mitigate the effects of these events. Even though Britain has counter-terrorism mechanisms in place, their ability to limit and approach opportunities of sophisticated terrorist attacks remains misplaced.

An example of the poor resource deployment and strategic security oversights surrounding the Manchester concert, can be seen by the fact that the explosion took place after the concert. This shows that Abedi was able to walk into the premises with a weapon of mass destruction without thorough security checks prohibiting him. Additionally, poor communication between police and fire forces resulted in their arrival at the scene hours after the explosion, prolonging

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the ISIL bombers were aboard the London Underground Trains. As a result, 52 people were killed and a further 700 were severely injured. On 21 July 2005, four further attempted bombings were planned on the same transportation system however, a fault in these bombs prevented their explosion (Cowell, 2015).

[29] On 22 March 2016 two coordinated suicide bombings were executed in Brussels. One of these at the airport and the other at a metro rail station. These attacks were conducted by the same cell of terrorists (belonging to ISIL) who were linked to the Paris attacks in 2015. 35 people were killed in these bombings and a further 300 were injured (Bloch, 2016).

[30] On 22 March 2017 a terrorist attack took place outside the Palace of Westminster in London. This ISIL related terrorist attack injured 50 people and killing five after a car was driven into a group of civilians. This was done after the ISIL made a specific plea to their member to target countries who were specifically acting in resistance towards them (Bennhold & Castle, 2017).

assistance to victims. Had there been sufficient checks in place, the explosion and the devastation surrounding it could have been avoided.

Furthermore, British Intelligence Agency MI5 was warned by their American counterpart in January of 2018 that Abedi was planning an attack on British soil. Abedi was placed on the American terrorist watch list after an investigation was conducted into terrorist groups operating in Libya. Although Abedi was on the MI5 radar, investigations surrounding his activity dwindled, allowing for his attack to be planned and executed unnoticed (Kentish, 2017). It can therefore be seen how countries in the Global North have the necessary resources to identify and approach these high impact, low probability risks and forecast their events, however the intelligence to do so is not effectively managed. Because these risks and events are not classified as daily risks, their analysis is not continuous, meaning they are not forecasted timeously and adequately mitigated.

Other primary Factors which should be considered is that Britain plays a leading role in the Global Coalition. This is a unified body comprising of 74 countries which aims to defeat ISIL through any military means possible. The Coalition resists ISIL operations by tackling its finances and preventing the flow of foreign terrorist fighters into countries (Williamson, 2018). Furthermore, as Britain does not prescribe to the ideologies of ISIL and their aims of a worldwide caliphate, the country is considered to be an enemy of the organisation. This in combination with the military tactics against ISIL provides the reason why ISIL chooses countries such as Britain in the Global North to execute attacks. With the analysis of these relevant indicators as well as by acknowledging the resource capacity and availability of the country, the attack in Manchester is classified as a high impact, low probability event. The next example will serve as a contrast between the two previous examples. This will be done by considering Actors other than ISIL. It will therefore show how the approach can be applied to examples unrelated to terrorist organisations.

Table 4: The Novice Approach – Manchester, Ariana Grande Concert

Indicator	Description
Actors	- Salman Abedi. - Member of ISIL.
Factors	- Britain is a leading member of the anti-terrorism Global Coalition. - Western country, democratic values, does not prescribe to ISIL's caliphate. - Intelligence and security oversights of MI5 and security personnel at concert.
Time (Opportunity)	- Ariana Grande Concert. - Large gathering of people.
Location	- Britain, Western liberal democracy. - Known enemy of ISIL. - Abundant resource availability, yet not utilised effectively to mitigate event.
Overview	By analysing the abovementioned indicators, this event is classified as a high in impact and low in probability.

4.3.3. Lone-wolf Attack, Las Vegas: Route 91 Music Festival, October 2017

On the 1 October 2017 a gunman, Stephan Paddock fired approximately 1100 rounds from his Mandalay Hotel suite on the 32nd floor killing 58 people and injuring a further 851, in Nevada Las Vegas. Paddock targeted a crowd of 22 000 who were attending the Route 91 Music Festival. As can be seen by the previous examples, the concert and the large crowd it attracted gave opportunity for an event of this nature to take place. This incident has since been considered as the deadliest mass shooting committed by an individual in the United States of America (USA), subsequently reigniting the debate around the countries gun laws. The investigations conducted on this event have concluded that Paddock had no specific motive. Paddock was found dead in his hotel room shortly after the shooting with a self-inflicted gunshot wound to the head (Boyle & Henderson, 2017).

By analysing the event with the Novice Approach, the primary Actor, Stephan Paddock, said not to be affiliated to any terrorist organisation is considered as a lone-wolf terrorist. This shows that these high impact, low probability events occur not only as a result of organisational terrorist activity and that there are a variety of other Factors which serve as indicators to be analysed in forecasting. Furthermore, the USA (as the primary Location of the risk analysis) is of importance when analysing the relevant risk factors pertaining to this case. The 9/11 terrorist attacks of 2001 brought about the development of new-age terrorism resulting in the establishment of the Global War on Terror. This was issued as a military intervention strategy in combating terrorist activity in the USA. As a result, the Department of Homeland Security was established to monitor suspicious activity, investigate terrorist groups and prevent terrorist

attacks from occurring. However, although high impact, low probability terrorist related risks and events has declined in the country since 9/11, the way in which terrorism has been understood and approached have subsequently created a 'blind spot' in the countries risk analysis. This lends itself to prominent Factors which should be considered for this and other potential events.

Some of the integral Factors of the analysis is that, although there has been a decline in international terrorism in the country, there has been a steady increase in domestic attacks and violence. These are considered as 'lone-wolf attacks' or 'shootings', rather than acts of terrorism and therefore are approached as such. According to the Gun Violence Archive, the general understanding for a 'mass shooting' is when four or more individuals are shot in the same location. A 'mass killing' is defined by when more than three people are killed in a shootings. The Patriot Act of 2001 defines 'terrorism' to be intended activities which are dangerous to human life and are in violation of the criminal laws of the country, affecting the conduct of the government by mass destruction, assassination or kidnapping (The United States of America, 2001). Acts of terrorism are considered to be planned and executed by an 'enemy' of the state and are often not considered to be a citizen of the country.

With these conceptualisations used as a point of analysis of the type of event alongside the nature of the Las Vegas shooting, it brings into question why the attack is not considered as an act of terrorism. Conceptual differences and misunderstandings such as these result in important indicators and factors being overlooked, resulting in the inability to forecast. This can be considered as the 'blind spot' whereby most high impact, low probability risks develop into events and because they are not identified and adequately approached. However, by applying the Novice Approach the three examples can be contrasted with one another. Although the Actors of the previous examples were terrorist organisations, the impact or probability of an event is not determined by this. The shooting at the Route 91 Music Festival, executed by a lone-wolf terrorist, could have still been forecasted with the Novice Approach had the relevant factors been considered. It is important to acknowledge that neither terrorist related attacks nor lone-wolf attacks are irrevocably inconvincible and unapproachable.

A primary Factor to be considered in this example are the gun laws of the country. Paddock was permitted to purchase 47 firearms easily and illegally. America is notoriously known for its relaxed gun laws, with little to no purchasing restrictions in place. Although these laws differ between states, Nevada is particularly notorious for granting easy access to weapons. The

general procedure to purchase a gun in the USA requires that the purchase be cleared through databased checks established by the Federal Bureau of Investigation (FBI). These checks include the due diligence of place of purchase, number of already purchased/owned guns and mental stability checks. Through these checks, Paddock was not considered a flight risk, allowing him to purchase and own multiple guns within his legal rights. The law states that a person may not purchase multiple (more than two) within five days of each other however, this still gave Paddock sufficient time to build his cache of arsenal. Additionally, Paddock bought a majority of the ammunition and other items used in the attack through private sellers off the internet, meaning that no formal background checks and balances took place regarding the eligibility of his purchase. Paddock then modified these weapons to operate as assault rifles, whereby hundreds of rounds were shot per minute, resulting in the mass devastation and death (France-Presse, 2017).

Investigations have since revealed that Paddock was being treated for mental illness conditions, which should have otherwise been cause for caution when granting access to purchase the firearms. Therefore, the creditworthiness of the established checks are questioned (France-Presse, 2017). Other Factors to consider are the lack of security checks at the Mandalay Hotel. Paddock was able to bring in a large number of weapons and ammunition into his suite without established security precautions stopping him. Although obtaining the vast amount of weapons had been done so without prohibition, the attack itself would have been deferred had the hotel employed sufficient security checks upon entering and exiting the hotel.

As the USA gun laws grant permission for citizens to have easy access to weapons, the checks and balances in place regarding the eligibility of purchases should be significantly robust. However, even though the reality of an attack of this nature is uncommon, the probability still exists and therefore it is classified as a high impact, low probability event. The relaxed gun laws of the country and the ineffective security inspections, gun related risks and related high impact, low probability events become inevitable. Furthermore, there have been several lone-wolf attacks in the USA where the weapon used has been a legally obtained gun[31].The gun laws of America are a causal Factor for the number of increasing lone-wolf terrorist attacks

[31] There have been a total of 246 mass shootings this year in the USA as of 6 September 2018. In 2017 there were 346. Many of these shootings have taken place on school premises. Children as old as 15 have been named the primary Actors of mass shootings in schools. A recent school shooting in Santa Fe, Texas took place on 18 May 2018, marking it as the 22nd school shooting for the year. A 17 year old student opened fire on the school grounds killing ten and injuring a further 13. This shooting sparked a national and global outrage calling for the National Rifle Association (NRA) to establish stricter gun laws, prohibiting events such as these from occurring (Calfas, 2018).

which take place in the country. This has resulted in the rise of domestic violence which should be a primary point of analysis when conducting a risk analysis in the country.

Table 5: The Novice Approach – Las Vegas, Route 91 Music Festival

Indicator	Description
Actors	- Stephan Paddock. - Lone-wolf terrorist.
Factors	- Relaxed gun laws increase domestic violence. - Inefficient security checks in purchasing guns. - Ability to freely purchase guns off the internet. - Poor security checks at hotel.
Time (Opportunity)	- Route 91 Music Festival - Large gathering of people.
Location	- America. - Resource available, yet not utilised effectively to forecast event.
Overview	By analysing the abovementioned indicators, this event is classified as a high in impact and low in probability.

4.4. The Novice Approach in Political Risk Analysis: A Summary

By analysing these examples with the Novice Approach, it shows that the Location of these high impact, low probability risks and related events determines the Factors which should be considered in the analysis. By identifying the relevant Factors which can be devised from the Time and Location, the analysis is able to identify these risks and therefore forecast events. The three examples shows how this approach can be applied to different locations, where the probability of these events vary (as seen by the attack in Jordan [higher probability] and the attacks in Manchester and America [lower probability]). However, although the probability of these events ranges as a result of the Location factor, the approach shows how these events could have been forecasted and classifies them as high impact, low probability events. Identifying the Actors, Factors, Time and Location in a continual analysis, this allows risks analysts to determine the probability of these risks developing into events, subsequently providing the means to forecast.

What must be further noted in the risks analysis is that the devastation experienced as a result of these risks is dependent on the resources available and how they are managed. If the resources are readily available and are used effectively, this will minimise the damage and devastation caused. Both the attacks in Manchester and America show that even though these countries have the necessary intelligence to prevent and approach these events, they are not effectively used. In doing so, this exacerbates the ‘blind spot’ in their analysis, meaning that risks which can be seen by trends in the country are overlooked. By applying the Novice

Approach, a continuous risk analysis will successfully identify dangerous trends and relevant Factors which will allow risk analysts the opportunity to forecast events. It can be seen through the application of the approach how it considered the specific Location and then identified its resource capacity. Countries that have a wealth of resources are able to mitigate surprising events more effectively than those that do not. In the case of the latter, the Novice Approach still allows risk analysts to identify the necessary risks and approach them timeously. It can therefore be determined that regardless of the probability status of the scenario or the impact it may have, these are classified as high impact, low probability events.

4.5. High Impact, Low Probability Events in Political Risk Analysis: A Classification

The applicability of the Black Swan as a classification in PRA has been understood and applied problematically. Taleb's primary characteristic of the Black Swan that the chances of the occurrence of this event is so low that it cannot be identified or approached and therefore results in largescale impact and devastation when it does occur. Once this has happened, Taleb calls the human explanation of these events as Narrative Fallacy. According to Taleb, this hindsight gives risk analysists and observers false pretences as to how the event could have been approached if the relevant factors had been timeously considered along with historical trends (2007:xxi). However, by considering the identified alternatives and oppositions to Taleb's Black Swan, it can be seen that these risks and related events are not as irrevocably unidentifiable and unapproachable as stated.

The characteristic of the Black Swan's unpredictability has been resolved through the presentation and analysis of the different approaches presented in chapter three. Here a number of both qualitative and quantitative alternatives to approaching high impact, low probability risks and related events were presented as critiques and in opposition to Taleb's theory. Even though the concept of the Black Swan has been understood widely and differently, this chapter proved how risks analysts have still been able to develop credible approaches and have applied them with a relative amount of accuracy. Although these risks can be identified and their related events approached, this thesis does not dispute the fact that surprising events do take place. This element of surprise has been factored into approach strategies (as can be seen through scenario building) allowing analysts to plan for irregular events. Furthermore, these risks and events are inherently perspectivistic in nature and therefore have been analysed from a Western liberal perspective. Countries in the Global North (seen by the Manchester and American

examples) do not believe that these events could take place as they are not characteristic of their consolidated democracies. This creates a distinctive blind spot in risk analysis and assessments whereby integral indicators and factors which point to the occurrence of high impact, low probability events are overlooked.

However, the Novice Approach used to analyse the examples shows that, when it is applied in risk analysis, that they are classified as high impact, low probability events. With a continuous examination of the relevant Actors, Factors, Time and Location, risk analysist are able to identify important trends which will enable approach strategies. In doing so, the blind spot in Western risk analysis is removed. The second characteristic of the Black Swan is that it is high in impact and will result in catastrophe and devastation as determined by the resource capacity and availability of a country. Taleb puts forward that the impacts of these events are calamitous as direct result of their unpredictability. However, as was mentioned by the researcher from RADAR and as can be seen by the presented examples, this is dependent on the specific Location and on the resources available. What might have been considered as a high impact, low probability event in a developing country may not be experienced the same in a developed country. The impact of these events can be significantly mitigated if the country has the necessary resources and mechanism of deployment available as a result of the state's capacity.

Additionally the socio-political status of these countries will determine how a state is able to respond, the type of resources deployed as well how effectively it will mitigate devastation. Furthermore, countries which have a more stable socio-political status have already established functional mechanisms of anti-fragility in place. These countries will therefore still be able to compete and benefit politically and economically in the wake of devastation. When considering the Manchester and American attacks, both countries were still able to continue functioning as result of their established bureaucracies while simultaneously to experiencing catastrophe. On the contrary, third world countries are often not able to manage crises whilst simultaneously continuing daily operations as a result of their limited resource capacity. The impact of these events are therefore determined by those who experience it and the subsequent conditions which may amplify the devastation.

By considering the above, the two characteristics of Taleb's Black Swan, its unpredictability and its impact have been nullified through the applied approach. In this, the third characteristic of the theory, Narrative Fallacy becomes a dispensable part of the Black Swan. The hindsight contributed from Narrative Fallacy, then is no longer a point of contention in PRA as the risks

have been identified. Here, a suitable approach method can be developed and applied. The Novice Approach allows risk analysts to conduct a continuous risk analysis, therefore identifying important risks and trends in different locations with varying resource availability. Risks therefore become manageable in PRA and their events are classified as high in impact and low in probability.

4.6. Conclusion

The Novice Approach has shown how high risks can be identified and monitored, providing risk analysts with the knowledge and opportunity to implement an approach strategy. The three examples showed how the Actors, Factors, Time (or opportunity) and Location of high impact, low probability risks could have been successfully identified and approached before shifting into events of devastation. Furthermore, the contrast between these examples showed how countries in the Global North are often sufficiently prepared to identify and approach these risks and related events but as a result of their self-imposed blind spots, the analysis overlooks integral factors. In addition to this, although the presence of ISIL related terrorist attacks has been steadily increasing in Britain and other parts of Western Europe, these risks have not been effectively managed, resulting in mass devastation and catastrophe. Moreover, there has been a shift away from terrorist related attacks in America to domestic violence, as a result of the relaxed gun laws of the country. These gun laws and the lack of effective and robust checks and balances when purchasing weapons influence the increase in domestic terrorism directly. However, the way in which terrorism is conceptualised by the American government determines how it is operationalised. As domestic attacks are not explicitly considered as a form of terrorism, this affects the way in which risks are understood and identified, resulting in a blind spot in their risk analysis. In analysing the Location and its socio-political status, the impact of events can be determined. Furthermore, this allows for an appropriate approach and mitigation strategies to be developed and implemented in accordance with the resource capacity and availability.

By applying the developed Novice Approach to a specific location in accordance with the needs of a company, a continuous risk analysis can be conducted. Relevant risks and trends can therefore be identified and monitored effectively. In doing so, changes in these risks are recognised and an approach can be effectively implemented. Although surprising events may still take place, the approach provides sufficient insight and knowledge for effective mitigation strategies to be performed. By applying the approach as a mechanism alongside a continuous

risk analysis, there is sufficient insight and information collected that hindsight is no longer needed to point to causal factors. In doing so, events of a low, medium or high probability can be successfully forecasted and planned for. By identifying and analysing the Actors, Factors, Time (opportunity) and Location in a risk analysis, this allows analysts to monitor dynamic trends and risks before the fact of a high impact, low probability event. This Novice Approach therefore acknowledges all necessary risks and trends, making events forecastable and approachable.

CHAPTER FIVE: CONCLUSION AND IMPLICATIONS FOR FUTURE STUDIES

5.1. Introduction

This research began by analysing Nassim Nicholas Taleb's theory on the Black Swan, acknowledging its origins from the discovery of the bird in the 17th century in Australia. The exploration of the Black Swan signified the psychological limitations humans have when considering their available knowledge and how this may be utilised in understanding high impact, low probability scenarios. The discovery of the bird provided Taleb with the foundation to consider and develop a theory, which identifies how and why risk analysts and decision-makers are unable to identify high impact, low probability risks which therefore result in mass devastation. Furthermore, Taleb put forward that events such as the discovery of the Black Swan are highly improbable, suggesting they cannot be identified or approached. As a result, the materialisation of these risks into high impact, low probability events would result in mass devastation and would alter the socio-political and economic trajectories of a country or would drastically influence an organisations agenda and profitability.

The research guided the central question as to whether or not the Black Swan could be applied as a classification of events in PRA. In accordance with this, the research then considered this through a critical analysis of the Black Swan theory, where oppositions and critiques to Taleb's Black Swans are considered. This then showed how there are established approach strategies used in PRA as an alternative method in which to approach high impact, low probability risks and their related events. The case study of the Black Swan was studied along the lines of a qualitative analysis. Although the thesis was predominantly a desktop study, primary data was collected by conducting semi-structured key informant interviews.

This chapter serves to highlight the key findings as they correspond to what was initially set out by the aims and objectives of this thesis. Furthermore, this chapter will show an evaluation of the research problems and questions, the main findings and the contribution this thesis may have on future studies.

5.2. Evaluation of the Research Question and Main Findings

Taleb's Black Swan theory was developed as a perspective to understand why risk analysts and decision-makers are not able to identify and approach high impact, low probability risks. In this, the Black Swan and the events labelled as such were enigmatically understood amongst risk analysts. Therefore, by evaluating its conceptualisation and opperationalisation, it has not

been effective in identifying and approaching the risks which lead to events of high impact and catastrophe. Taleb claims that the inability to do so is primarily based on the fact that risk analysts and decision-makers are not able to consider the relevant information as a result of the psychological limitations characteristic of humans. Here, Taleb states that these concealed risk factors and indicators amalgamate into high impact, low probability events in the Extremistan category (as presented by Blyth, 2010:452). This becomes problematic, as considered by Taleb and Blyth as the information available and the ability to strategically process it predominantly occurs in the Mediocristan category. Therefore, the resources and information available to identify and develop approach strategies to high impact, low probability events are inadequate.

The three main characteristics of the Black Swan which makes this difficult for PRA is that it is inherently unidentifiable and unpredictable. As a result, the impacts of these events result in largescale devastation which influences the socio-political and economic trajectories of a country or the profitability of a MNE. After the event has taken place, Taleb mentions that risk analysts and decision-makers develop a fallacy as to how they may have been able to approach these events if they had considered relevant risk factors and indicators. This then gives the illusion that these risks and their corresponding events can be identified and approached in the future. With this in mind, this is how the main research question of this thesis was formulated.

In order to answer the main research question of this thesis, the Black Swan theory needed to be discussed alongside the theory of PRA. The conceptual developments which have taken place in PRA needed to be considered in order to assess whether or not the Black Swan could be considered as a classification. Furthermore, important aspects such as political instability and political uncertainty and forecasting versus prediction were acknowledged so that the limitations and delimitations of PRA were noted. By applying the relative factors and understandings of various types of political risk, it was shown that PRA has the ability to forecast and approach risks and related events with insight and precision. This is further enhanced by acknowledging how political uncertainty and instability shape the risk factors and indicators in an analysis. By understanding how correlating trends influence one another, it was found that risk analysts are able to identify, analyse and forecast potential events timeously. When a continuous analysis is conducted where primary factors and indicators are identified and monitored, approaches in PRA to high impact, low probability events are successful.

Once the theory and some of the comprising elements of PRA had been considered, the author then linked this to Taleb's Black Swan theory. This section considered the Black Swan theory

and the various conceptualisations and understandings given by other authors. In doing so, this showed the limitations and delimitations of the theory as presented by Taleb, and also considered critiques and oppositions. The three main characteristics of the Black Swan, being its (1) low probability, (2) high impact and (3) the Narrative Fallacy given after the event, was contested amongst scholars. Here, perspectives on how high impact, low probability risks and related events were shown that they can be successfully forecasted and approached. By gaining an understanding of the psychological limitations that are paramount to the development of a Black Swan, according to Taleb in relation to how high impact, low probability risk and related events are classified, alternatives and oppositions to the Black Swan were found in chapter three.

Chapter three showed the applicability of the Black Swan classification in PRA by considering a range of quantitative, and mostly qualitative approaches. Here it was seen that a majority of the quantitative approach strategies used in PRA were based on probability statements. Mathematically determined likelihood of events is done through the computing of big data. Examples of these included ERM, the Monte Carlos Simulation and Bayesian Model Averaging. However, although these approaches are able to identify risks through the analysis of previous numerical data, there is insufficient practical knowledge on these methods. By analysing risks and related events only by methods of probability, important daily factors and occurrences are often overlooked.

Risk scholars remedy this oversight through more qualitative approach strategies. Analysis of these comprised the second half of the chapter. Here, high impact low probability risks and events in PRA were evaluated alongside methods of scenario building, environmental shaping, early warning signals and rational thinking strategies. Different qualitative methods acknowledge Black Swan type events in scenario building. Additionally, this section showed that it is through the conceptualisation of risks and the perspective from which they are operationalised which makes high impact, low probability risks identifiable and approachable. By considering and adding a practical knowledge component based on current and changing events, the qualitative approaches adequately consider dynamic risk factors and indicators such as actors, location and the socio-economic status and resource capabilities of a country. As risk factors and trends are constantly changing, this needs to be accounted for in PRA. Through the analysis of the various qualitative approach strategies, a Novice Approach to high impact, low probability risks and related events can be applied alongside existing models in PRA was developed and discussed. This approach considered four primary indices namely Actors,

Factors, Time (opportunity) and Location. These indicators consider the primary points of analysis, which should be continuously monitored in a risk analysis.

The evaluation of the applicability of the Black Swan in PRA continued in chapter four through the application of the Novice Approach to three examples. By conducting a continuous analysis where Actors, Factors, Time (opportunity) and Location are considered according to the needs of a client, approaches to high impact, low probability risks and related events is possible. The approach was then applied to locations in the Global North as well as the Middle East to show that it can be used as a point of analysis in polar-opposite states. In doing so, it was shown that by analysing these four indices, regardless of the nature of the event it would still be classified as high in impact and low in probability. The Location of where the analysis is conducted points risk analysts to a range of important indicators. Here it was shown that countries in the Global North often approach their risk analysis through a Western liberal perspective, resulting in 'blind spots' and therefore strategic oversights. However, when these four indices are applied and are considered alongside a continuous risk analysis, all necessary strategic insight in approaching risks and related events is provided. As the analysis is continuous, the factors and indicators point to why risks may change. This provides insight into how high impact, low probability events can be approached.

The approach provides risk analysts with fundamental indicators which should be considered in an analysis, regardless where the analysis is being conducted, who the Actors are to be monitored and the Factors shaping increasing risk. Analysing the socio-political status of a Location determines the resource availability and capacity and therefore the kind of impact and devastation which can be expected. In considering the socio-political status of a country, risk analysts are able to assess the possible damage a country could experience. Furthermore, by identifying and analysing these integral risk factors, potential events can be successfully approached.

The notion of Narrative Fallacy therefore becomes an irrelevant point of consideration in PRA as the analysis of the indices provided strategic insight used to approach risks. With this in mind, this chapter showed that the classification of events of this nature should be known as 'high impact, low probability' and not a Black Swan. The evaluation of the Black Swan in PRA conducted in this thesis showed that it cannot be considered as a classification of high impact, low probability events.

5.3. Contributions towards Future Studies

In identifying how the concept of PRA has expanded to consider a variety of elements in which to make forecasting increasingly precise and accurate, alongside how risk analysts have approached, high impact, low probability risks and related events can be accounted for. This study has shown that by observing risks through relevant perspectives, be it a regional risk analysis or transfer risk analysis, the way risks are conceptualised determines how they are operationalised. Furthermore, by evaluating the Black Swan theory and how it has been used as a classification for events in PRA the study has shown that through the use of alternative approaches, that risks and events which are high in impact and low in probability can be identified. The contribution this thesis makes to the future studies of PRA is that by evaluating the Black Swan theory, it is concluded that its applicability to PRA as a classification of events is renounced. Instead, through the development of the Novice Approach used alongside existing PRA models it shows how risks and their potential events can be successfully approached and classified as high in impact and low in probability. In doing so, the thesis has shown how the Black Swan theory has been misconstrued as an understanding for how high impact, low probability events happen. As a result, risk analysts are now able to analyse and approach these events without the Black Swan theory derailing PRA.

The Novice Approach comprises four primary indices which are relevant for the risk analysis for any needs of a client. By conducting a continuous analysis of the Actors, Factors, Time (opportunity) and Location risk analysts have an approach which allows them to consider risks as they develop from low to high impact and probability. This approach can be applied to any country in the world, regardless of regional developments and socio-political status. It provides risk analysts the strategic insight to approach risks which have the potential to develop into events. As the Location of the analysis will point to indicators such as socio-political status and resource availability, how potential events will be experienced can be predetermined. In doing so, necessary strategies can be developed in approaching and managing the event. Furthermore, although surprising events may still take place, the strategic intelligence and insight provided will still be of value in mitigating the impact. By considering these factors and indicators, it proves how high impact, low probability events can be approached through the Novice Approach in PRA.

5.4. Conclusion and Avenues towards Future Studies

This study has found that other avenues of research regarding the Black Swan and PRA can be accomplished. Some of these may include the combination of qualitative and quantitative approach strategies, which encompass practical and probabilistic knowledge. By implementing the Novice Approach alongside methods of probability, this will drastically increase the success rate of identifying and adequately monitoring fast developing risks into potential high impact, low probability events.

Furthermore, the study also highlighted how the conceptualisations of risk and terrorism should be refined to consider other important indicators to successfully monitor and approach risks. An example of this is by considering acts of lone-wolf terrorism in countries where people are more likely to act individually and not in correspondence with terrorist organisations. By continuing to develop the concept around PRA and what may contribute to risks, based on a specific location, approaches become increasingly accurate and PRA remains robust. In doing so, the blind-spot created by risk analysts and decision-makers based on the perspective of their analysis can become significantly marginalised.

The study also highlighted the importance of robust checks and balances of governments and intelligence agencies that should be updated to have strategic value in PRA and the approaches to high impact, low probability events. In this, how these mechanisms are used should be further studied so that the partnership between them and PRA allows risk analysts to accurately forecast and approach high impact, low probability events which will result in minimal impact. By considering these for future studies, it aids the development and optimisation of PRA, proving its necessity for in approaching high impact, low probability risks and related events across industries.

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